Robert McGhee

CANADA REDISCOVERED

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Scandinavian helmet from a period before the journeys to America, from a burial at Valsgarde, Sweden.
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CONTENTS

Introduction 7

Chapter 1 The First Peoples 9

Chapter 2 The Land of Promise of the Saints 23

Chapter 3 Vinland 37

Chapter 4 Helluland and Greenland 51

Chapter 5 The Search for Islands 71

Chapter 6 The Newe Found Islande 81

Chapter 7 The Labrador 93

Chapter 8 From Arcadia to Cain's Land 107

Chapter 9 Canada 123

Chapter 10 The Grand Bay 141

Chapter 11 Meta Incognita 155

Conclusion 167

Acknowledgements 171

Index 172

INTRODUCTION

Everyone knows that Columbus discovered America in 1492. But who discovered Canada? Schoolchildren in English Canada are taught that the country was discovered for England by John Cabot in 1497; schools in French Canada teach that Canada was discovered for France by Jacques Cartier in 1534. Children of both languages, however, assume that the discovery of Canada was a distinct afterthought to the earlier and more heroic discovery of America by Christopher Columbus.

Who Discovered Canada?

The truth is quite different. Canada was "discovered" by Europeans, and was a part of the European sphere of geographical knowledge, long before Europe knew anything of the more southerly portions of the New World. When Columbus landed on a Caribbean island in 1492, he was merely pioneering a new "southern route" to the western hemisphere. Columbus' explorations, and the subsequent conquest of New Spain, grew out of a set of geographical theories and incentives different from the ones that had much earlier brought Canada, and the "northern route" to the New World, into the consciousness of Europe.

Exposed as they are to the popular history generated in the United States, Canadians find it difficult to realize that Europeans attempted to settle eastern Canada almost 500 years before Columbus' explorations; that in the years after Columbus' voyage, Europeans were making regular ventures to Canada long before the territory which is now the United States had even been explored; that there was a European colony on Cape Breton Island a century before the Pilgrims landed at Plymouth Rock in Massachusetts; or that during the sixteenth century, Europe probably plundered greater wealth from the animal resources of Atlantic Canada than from the silver mines of Mexico or the gold mines of Peru.

The early history of Europeans in Canada is not only more heroic than usually credited, but also much more complex. We generally hear little of what happened between the time of Cabot's and Cartier's explorations, and the establishment of settlements in Québec and Atlantic Canada during the early 1600s. But the successful establishment of colonies was not the natural and inevitable outcome of the explorations which had taken place over 100 years before. The colonies of the seventeenth century were the result of experience gained in over a century of tentative settlement and turbulent exploitation. More importantly, successful European settlement was made possible by the decimation of Indian populations through a century of contact with Europeans and European diseases.

"Discovery" and the First Peoples

The fact of aboriginal occupation of the New World is tacitly denied by use of the word "discovery" in connection with early European exploration. The Western Hemisphere had long ago been "discovered" by ancestral Amerindians; it had simply remained unknown to Europeans until relatively recently. Yet the aboriginal peoples are generally treated by historians as simply another element of the New World environment, and as of little more relevance to history than were the beaver, buffalo or bears.

In fact, the First Peoples of the New World had an ancient history in the country, and had developed rich and cherished ways of life which they were quite capable of defending against occasional shiploads of Old World sailors or would-be settlers. Far from being irrelevant to Canadian history, they were the dominant factor in regulating early European penetration of the New World. They successfully prevented European settlement of Canada for five centuries, since the time that the mediaeval Norse first sought to establish an outpost of Europe in what is now eastern Canada. One of the most interesting and most consequential facets of early European experience in the New World, is the nature of the contacts and developing relationships between newcomers and original inhabitants. In such relationships, we find one of the keys to interpreting what happened during the first few centuries following the European "rediscovery" of Canada.

Early Knowledge of Canada

Another key that may help us better understand the sequence of events that eventually brought Canada into the dominion of Europe lies in recognizing that Europe knew of Canada long before the voyages of John Cabot or Jacques Cartier. Knowledge and experience of a "northern route" to the New World had been developed for more than 1,000 years before Champlain established Québec, or Lord Baltimore planted an English colony in Newfoundland, or Sir Walter Raleigh founded the first Virginia Colony.

This knowledge began to accumulate with the voyages of mediaeval Irish monks into the far reaches of the North Atlantic Ocean, voyages which may have begun as early as the sixth century A.D., and by the eighth century had resulted in the establishment of Irish monastic communities on islands as far west as Iceland. In their wake came Norse farmers, searching for land on the outer fringes of the known world, and finding it as far west as Greenland and Newfoundland. The colonies which the Norse established in Greenland lasted for five centuries, disappearing only about the time of Columbus, Cabot and Cartier. Throughout this lengthy period the Greenlanders supplied Europe with ivory, narwhal tusks, gyrfalcons, polar bear skins and occasional bits of information regarding new lands in the far west.

When fifteenth-century Europeans once again began pushing outwards across the Atlantic, there are indications that they knew something of what they would find, and the direction they should take to find it. There are also persistent hints that the official voyages which have found their way into the history books may have been based on more immediate knowledge: that John Cabot was following a trail first opened decades earlier by Portuguese and English fishermen, and that Jacques Cartier's exploration of the Gulf of St. Lawrence only confirmed what French fishermen had already reported.

Canada Before Champlain

As awareness of Canada hovered on the edge of European geographical knowledge for five or more centuries before the establishment of successful European settlement, there were notable transformations in the way the new land was perceived. It may first have entered European consciousness as one of the *Blessed Isles* of mediaeval geography. News of its discovery reached Europe as stories of the Norse *Vinland*, a fruitful country inhabited by a hostile population. For most of a century it was best known as the barren and rocky *New Found Island* or *Baccalaos* (Codfish Land) of the early English and Portuguese fishermen. For a few years it became the fabulously wealthy *Saguenay* of Jacques Cartier and *Meta Incognita* of Martin Frobisher, northern equivalents of Mexico or Peru. Early European activities in Canada were conditioned as much by these changing perceptions, as they were by developing knowledge and changing technology.

The centuries before A.D. 1600 comprise an intriguing segment of Canadian history. Yet the period left remarkably few records from which we can reconstruct the frequency and nature of contacts between Old and New Worlds. Neither the archives of Europe nor the archaeological sites of the Americas have yet provided enough documents to construct a definitive account of European activities in Canada through most of these centuries. Any attempt to write a history of the period must be heavily influenced by the author's judgement and credulity in interpreting vague and haphazardly reported bits of evidence. The chapters that follow attempt to arrange these hints and clues to create a plausible picture of early Canadian history. It is a picture of two worlds meeting over several centuries, during which the perceptions, ambitions and destinies of Europeans interwove with those of the First Peoples of North America. This picture serves as the necessary backdrop for the eventual European conquest of Canada.

CHAPTER 1

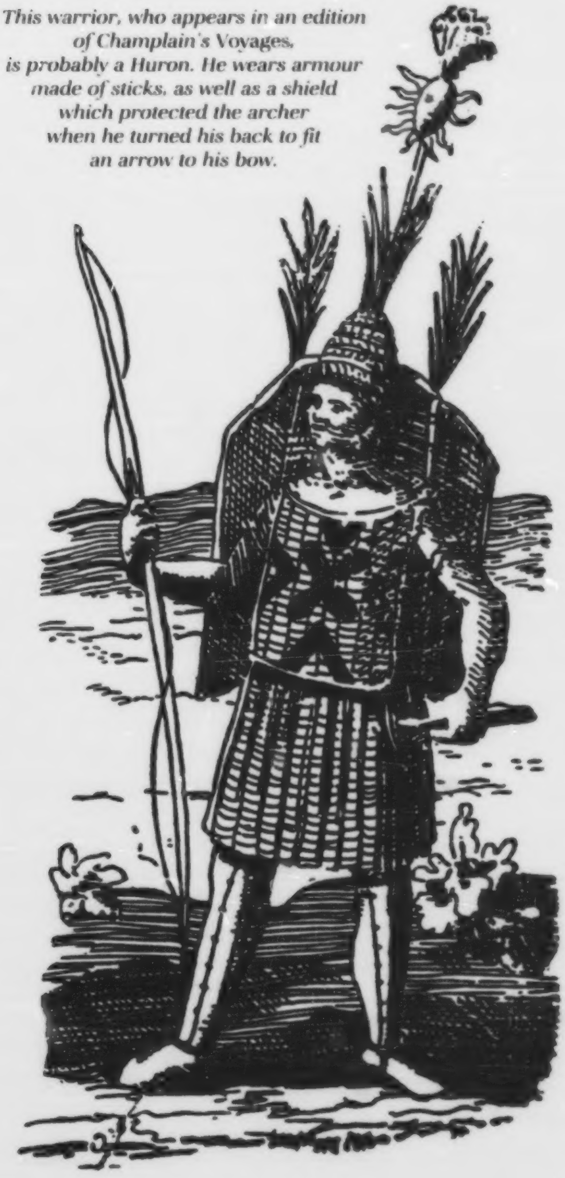
THE FIRST PEOPLES

When Europeans first crossed the Atlantic Ocean they discovered a truly New World, a world whose plants, animals, people and civilizations were remarkably different from those of Europe. The First Peoples of Canada, whose ancestors had occupied and developed the country for 15,000 years, were the first native Americans to encounter the newcomers from the east.

A fine example of Northwest Coast Indian art, this club is carved from whale bone. It comes from the Nass River area of northern British Columbia. (Length: 39 cm)

Who are the First Peoples of Canada? Where did they come from, and how are they related to the other peoples of the world? According to their own beliefs, they were placed on this continent by a divine Creator, who gave the land and its resources into their care. Archaeology provides an alternative explanation, which pictures the aboriginal peoples of the Americas as simply the brothers and sisters of all other living peoples on earth. In order to comprehend this picture, we must look back to our Ice Age ancestors: the ancestors of all living humans, of both the Old World and the New.

This warrior, who appears in an edition of Champlain's Voyages, is probably a Huron. He wears armour made of sticks, as well as a shield which protected the archer when he turned his back to fit an arrow to his bow.



Our Ice Age Ancestors

About 35,000 years ago the world gradually entered the last major Ice Age. For the next 20,000 years and more, temperate climates were considerably colder than at present, and massive glaciers covered much of the northern continents. This period also saw the appearance of a new animal: *Homo sapiens* in a modern form, physically indistinguishable from the peoples who occupy today's world. This creature had developed the technology, skills and social abilities to be an efficient hunter of most other animals, and to live in most of the world's environments. The last Ice Age saw human populations expand northwards out of their tropical homelands, and take possession of most of the world. Some groups moved into far northwestern Eurasia, to become the ancestors of Europeans. Other groups spread eastward across the Bering Land Bridge, to become the ancestors of the aboriginal inhabitants of the New World.

Ancient Civilizations

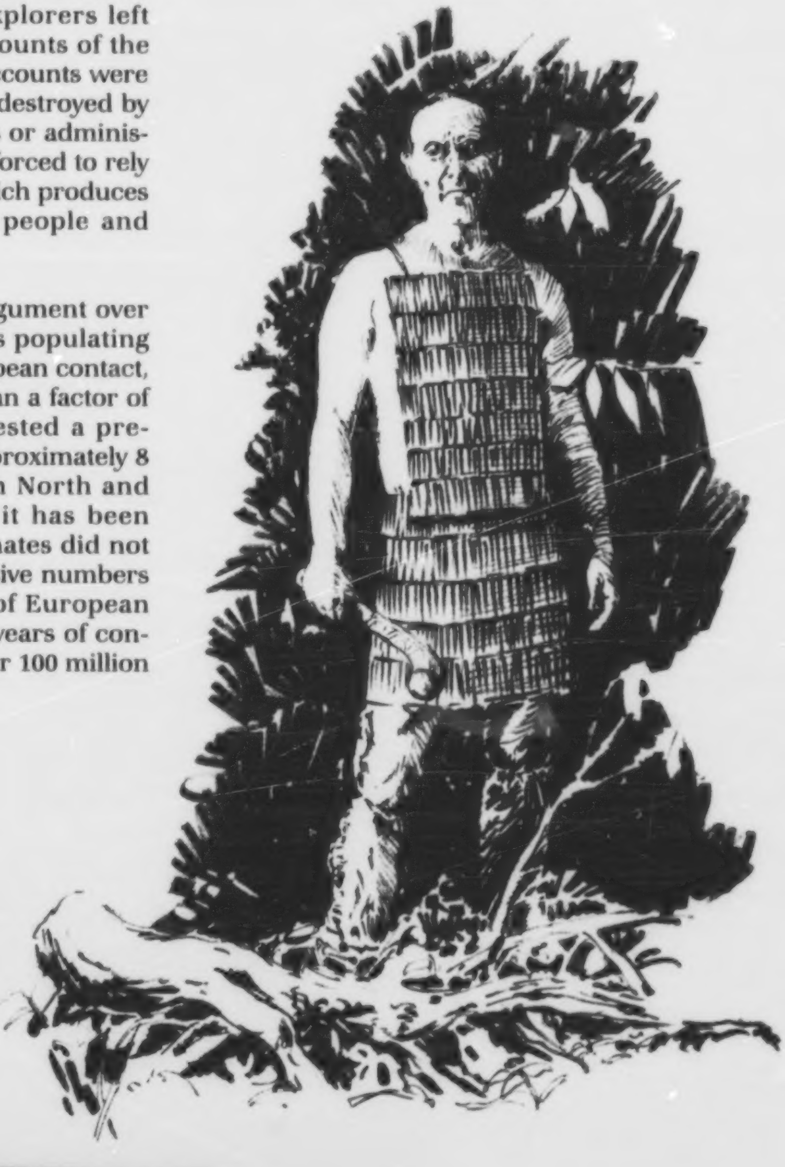
Over the 15,000 years since the Ice Age, human populations around the world developed along hundreds of alternate paths to produce the cultural spectrum of the modern world. Local cultures changed at their own rates, in response to the environments in which they found themselves. Those groups which had an abundance of local food resources developed settled ways of life with permanent dwellings in growing communities. Agriculture was invented at various times in several different parts of the world, and each development led to rapid population growth and the establishment of villages and small towns. In areas that were particularly productive for agriculture, or that had access to other resources, these towns grew into the ancient cities of the low-latitude world: those of the Nile, Mesopotamia, the valleys of the Indus and Huang Ho, Southeast Asia, Mexico and Peru. From these cities sprang the intellectual and social achievements of the ancient civilizations: writing, mathematics, organized religions, professional armies, kingdoms and empires.

Although ancient civilizations arose on each of the major continents, they developed along very different lines. Perhaps the most dissimilar were those of Europe and the New World. These civilizations were built by populations whose ancestors had been completely isolated from one another since the Ice Age. When the descendants of these two peoples met for the first time, an event which occurred somewhere in northeastern Canada, humankind had finally completed its encirclement of the earth.

The New World in the Age of Discovery

What kind of New World did Europeans find when they first began to cross the Atlantic? Unfortunately, we know surprisingly little about it. Few of the earliest European explorers left more than brief and sketchy accounts of the land and its people. Most native accounts were soon lost, as native cultures were destroyed by disease and by European religious or administrative zeal. In many areas we are forced to rely on archaeological information, which produces at best a vague picture of past people and societies.

There is even considerable argument over the numbers of native Americans populating the New World at the time of European contact, with estimates varying by more than a factor of ten. Traditional estimates suggested a precontact population of between approximately 8 million and 15 million people in North and South America. More recently, it has been forcefully argued that these estimates did not take sufficient account of the massive numbers of New World natives who died of European diseases introduced within a few years of contact. Pre-disease populations of over 100 million have been estimated for the New World, with up to 18 million people occupying North America to the north of the great civilizations of Mexico. If these estimates are correct, they suggest that New World population densities may have been on approximately the same scale as those of Eurasia during the Age of Discovery.



Iroquoian warrior in armour, based on an illustration from the works of Champlain. The armour is fashioned from sticks laced together with cords. During his visit to Hochelaga, Jacques Cartier was told of warriors who lived further upstream and who wore "armour made of wood and cords lashed and woven together."

This magnificent club is of a type used by the Indians of eastern Canada. It was probably collected by a missionary during the early seventeenth century, and was preserved in a French curio cabinet.

Tikal, in Guatemala, is the largest and most impressive city of the Maya.
Its truncated pyramids, supporting altars and high roof-combs dating from the eighth century A.D., cover the vestiges of several earlier constructions.

If New World populations were as dense as those of the Old, how did the two peoples compare in terms of social and technological complexity? Throughout history, the rate of social and cultural development of any human group seems to have been related to the individual environments in which these groups found themselves. In very general terms, New World societies developed somewhat more slowly than did the most rapidly developing societies of Eurasia. Although no one knows for certain why this was so, several guesses have been made. For example, the difference between the two hemispheres in the numbers of suitable animals available for domestication — especially draft animals such as horses, donkeys and camels — has been suggested as a factor that delayed the rate of New World technological development.

A more general, and probably more adequate, case can be made by relating differences in development rates to the simple fact that the Old World was much larger, more variable, and had a greater range of environments and cultures on which to draw. Old World cultures shared inventions and developments which emanated from the local civilizations of Europe and the Mediterranean, Egypt and central Africa, India and southeast Asia, central Asia and China. If each of these civilizations had grown in total isolation from the others (as did the civilizations of Mesoamerica), we might expect that the rate of development would have

This painting, dating from the early nineteenth century, romantically portrays Micmac Indians enjoying a life of ease in a bountiful land. The Micmacs of the Maritime Provinces and the Gaspé were well adapted to life on the ocean, using their sea-going canoes for hunting, fishing and travel along the coasts.

been slower, and would have approached the rates characteristic of New World civilizations.

Despite their slightly slower rate of development, the civilizations of Mexico, Central America and northern South America had existed for approximately 2,000 years by the time that Europe began to make contact with the New World. The immense city of Teotihuacan in the Valley of Mexico, which around A.D. 500 had been larger than Imperial Rome, was already falling into ruins. Jungle was rapidly reclaiming the cities of the Classic Mayan civilization, as the Toltecs of Highland Mexico extended their militaristic empire throughout Mesoamerica. A small and unimportant Mexican people named the Aztecs were rapidly absorbing Toltec culture, in preparation for overthrowing their predecessors and creating the largest Empire of the New World. In Peru, the Incas were similarly developing a huge empire based on military might and administrative sophistication. When the sixteenth-century Spanish conquistadors entered the capital cities of the Aztecs and the Incas, they were astounded at their size and grandeur, which put the cities of Spain to shame.

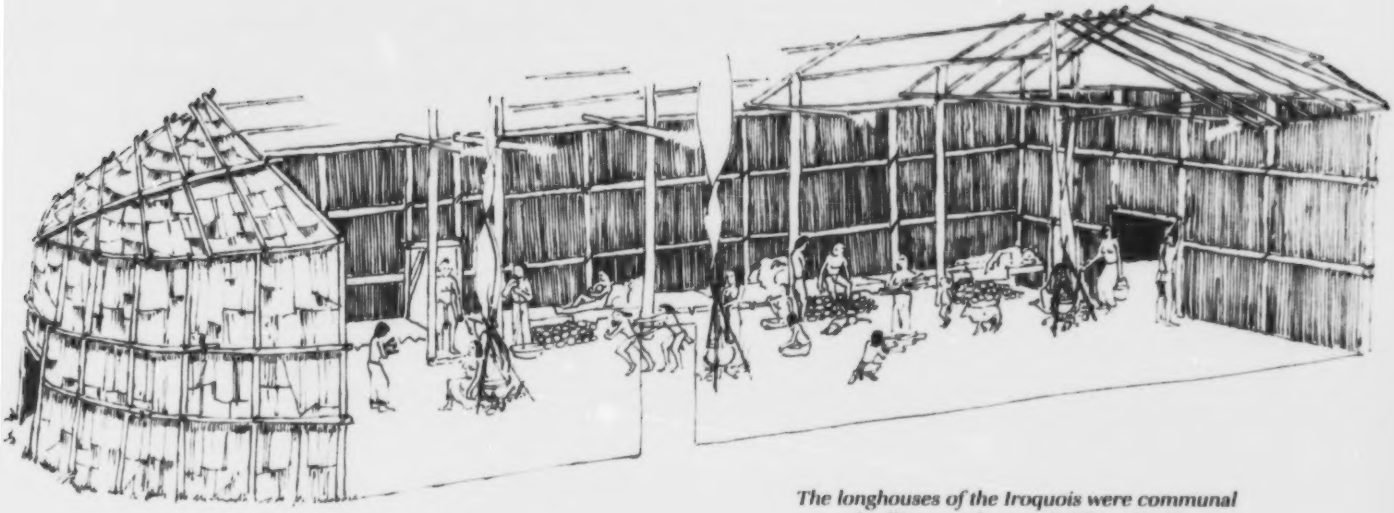
Canada's First Peoples

To the north of Mexico, relatively dense populations occupied most of what is now the central and eastern United States. These populations were supported by an agricultural technology based on the cultivation of maize, beans, squashes and other plants native to the New World. As far north as the Ohio Valley, farming communities supported towns characterized by large central plazas and massive pyramid-like mounds capped by ceremonial structures. The general level of social and religious organization of these peoples is reminiscent of the Gauls and Britons of 2,000 years ago as described by the Romans, who were then expanding their empire northwards at the expense of local tribal peoples. When European explorers found only remnant Indian populations inhabiting the ruins of large and impressive towns throughout the eastern United States, they assumed that an earlier race of "Moundbuilders" had constructed the towns and their monuments. In fact, the builders and their descendants had recently and rapidly disappeared because of warfare and disease resulting from early contact with Europeans.

The native peoples of Canada had developed ways of life which were adapted to regions of relatively cool climates and low agricultural potential, on the margins of the more rapidly developing cultures to the south. Estimates of the aboriginal population occupying what is now Canada range from approximately 200,000 to over two million, with the true figure probably lying somewhere between these extremes. The only regions of the country which did not support indigenous human occupation were the highest ranges of the western mountains, and the bleakest islands of the High Arctic archipelago. Elsewhere, local environments provided resources of fish, game and plant foods far more abundant than those of the present day. The natural food resources of most parts of Canada are mere remnants of those that existed before the past five centuries of increasingly efficient exploitation using technology of European origin, and by a large and growing population engaged in a world economic system.

In many regions it was possible to build productive economies and relatively sophisticated ways of life on these resources, using technologies that did not depend on agriculture or industrial exploitation. The prime examples of such development were among the peoples who inhabited coastal British Columbia and the adjacent interior river valleys. These areas probably supported a population of 100,000 or more people, living on salmon and other fish, sea and land mammals, and other wild foods. Plentiful food resources provided for dense local populations, occupying large villages of plank longhouses or huge multi-family pithouses. The social organizations and intellectual attainments developed by these groups were at a level of complexity characteristic of relatively advanced agricultural peoples elsewhere in the world. Their artistic accomplishment, including monumental art in carved and painted cedar, has been compared with that of ancient Greece.

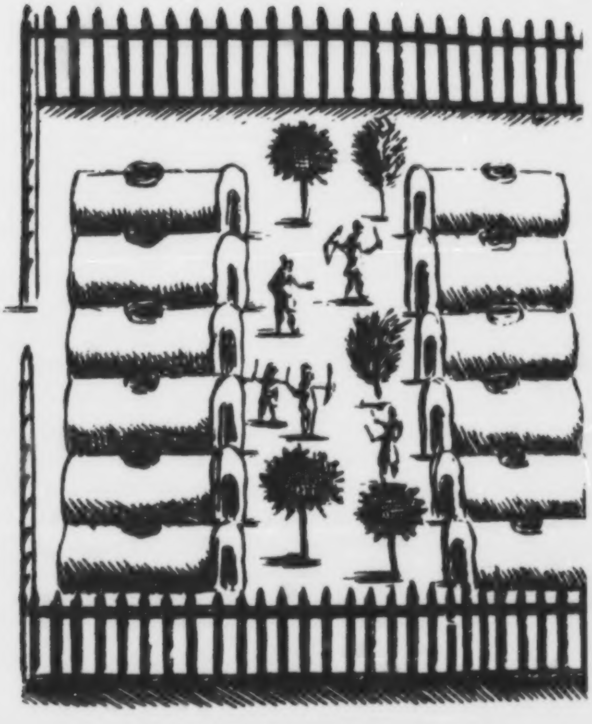
To the east of the Rocky Mountains, most Canadian rivers drain to the Arctic Ocean and lack the runs of Pacific salmon which provided such a rich and dependable food resource to west coast peoples. In the Plains grasslands the bison was supreme, providing food, fuel, clothing and shelter to the 25,000 or more people who followed the immense herds. Since horses were only introduced to North America by the



The longhouses of the Iroquois were communal dwellings, each occupied by a dozen or more families. The houses described by Jacques Cartier were "fifty paces or more in length, and twelve or fifteen paces wide"

early Spanish settlers, aboriginal Plains Indians hunted the bison on foot, often by stampeding herds into log pounds or over steep cliffs or cutbanks. Archaeology shows that some of these hunting sites had been used for up to 10,000 years, evidence that the way of life which they supported was relatively stable and secure. New ideas were pushing northwards into the Plains at about the same time that Europeans began to arrive on the east coast of the continent. These ideas emanated from the agricultural villages which had been established in the Missouri River Valley, and attempts were made to develop an agricultural economy as far to the northwest as central Alberta.

North of the grasslands stretched the great spruce forests of Canada's northland, an environment which extended from Alaska to Labrador. This territory was home to perhaps 30,000 or more people; those of the western subarctic spoke languages of the Dene (or Athabaskan) family, while those of the east spoke Cree and allied languages of the Algonkian family. Both groups shared many common elements of a way of life adapted to the severe conditions of the northern forests. These were the peoples of the birch-bark canoe, the snowshoe and toboggan: hunters of moose or caribou, and trappers of the animals whose furs provided one of the earliest major European interests in Canada.



Baron Lahontan travelled to New France in the late seventeenth century. This illustration from his Voyages shows the characteristic shape of longhouses with rounded roofs, but litle else about the village is realistic.

The deserted city of Machu Picchu is a fine example of Inca architecture. In the century before the Spanish conquest, the Incas of Peru had unified an empire of several million people.

The treeless lands and sea-ice plains to the north of the forests were occupied by perhaps 20,000 Inuit, a people whose history was quite different from that of the Indians who occupied the remainder of the New World. The Inuit were the eastern outliers of a much larger population which lived in Alaska and along both margins of Bering Strait, a people whose ancestry and culture had closer ties to Siberia than to North America. The Inuit of Arctic Canada were recent immigrants to the area, having arrived as the result of an eastward expansion from their Alaskan homeland. They had come at about the same time that the Icelandic Norse established the first European colonies in the eastern Arctic, and contact between Inuit and Europeans has been almost continuous for the past 1,000 years. Yet the remoteness of their Arctic homeland, and its unattractiveness to European settlement and exploitation, has allowed them to persist as one of the last American peoples to retain much of their ancestral land, culture and way of life.

At the opposite extreme from the Arctic, the most southerly area of Canada — southern Ontario and the upper St. Lawrence valley — supported a dense population of aboriginal farmers. Perhaps 50,000 people occupied the area between Lake Huron and Québec City. These people spoke Iroquoian languages, and their languages as well as their agricultural economy and entire way of life were related to those of populations to the south of the Great Lakes. These were the most northerly of the peoples who grew corn, beans and squashes, and occupied large permanent or semi-permanent communities across eastern North America between the Gulf of Mexico and the Great Lakes. In the social and political organization of the Ontario Iroquois, as well as in their religion and view of the world, we can trace the ends of cultural tendrils extending northward from the civilizations of Mesoamerica.

Finally, the eastern coasts of Canada were occupied by Algonkian-speaking peoples — the ancestors of the Micmac and Malecite of the Maritime Provinces, the Montaignais of the northern Gulf of St. Lawrence, and the extinct Beothuk of Newfoundland. These were hunting and fishing peoples, with ways of life similar to

This earthenware pot with finely decorated collar is of Iroquoian origin. It was found in southeastern Ontario.

those of their relatives of the northern forest, but occupying an area with a considerably larger range and quantity of food resources. Like the Indians of the eastern seaboard to the south, and those of the Caribbean Islands, these peoples took the brunt of early contact with Europeans in the post-Columbus period. They were the first to be taken as slaves, to suffer decimation from diseases brought in the ships from the Old World, and to become inextricably involved in the economy and trade of early European settlement. Not surprisingly, they are among the peoples whose circumstances changed so greatly and so rapidly that little is now known about their aboriginal ways of life.

This, then, was the New World at the time the Europeans began to venture into the western Atlantic. It was a hemisphere with plants, animals and people which were totally new to Europeans, and a part of the earth whose human inhabitants had developed cultural traditions quite different from those of the Old World. In some ways it was an idyllic world, with abundant resources and an absence of the diseases which caused so much suffering to Old World peoples.

Contact between the Old and New Worlds was first acheived in the northern portion of this hemisphere, that area which is now known as Canada. The First Peoples of Canada were the first occupants of the New World to meet the strangers from the lands beyond the eastern ocean.

The Western Ocean

The North Atlantic Ocean forms the western horizon for all of Europe. Since the continent was first inhabited, it has been a source of mystery and wonder. The past ten thousand years saw the gradual development of human abilities to travel and navigate on the sea. But only during the last thousand years is it certain that Europeans have penetrated the far reaches of the Western Ocean.

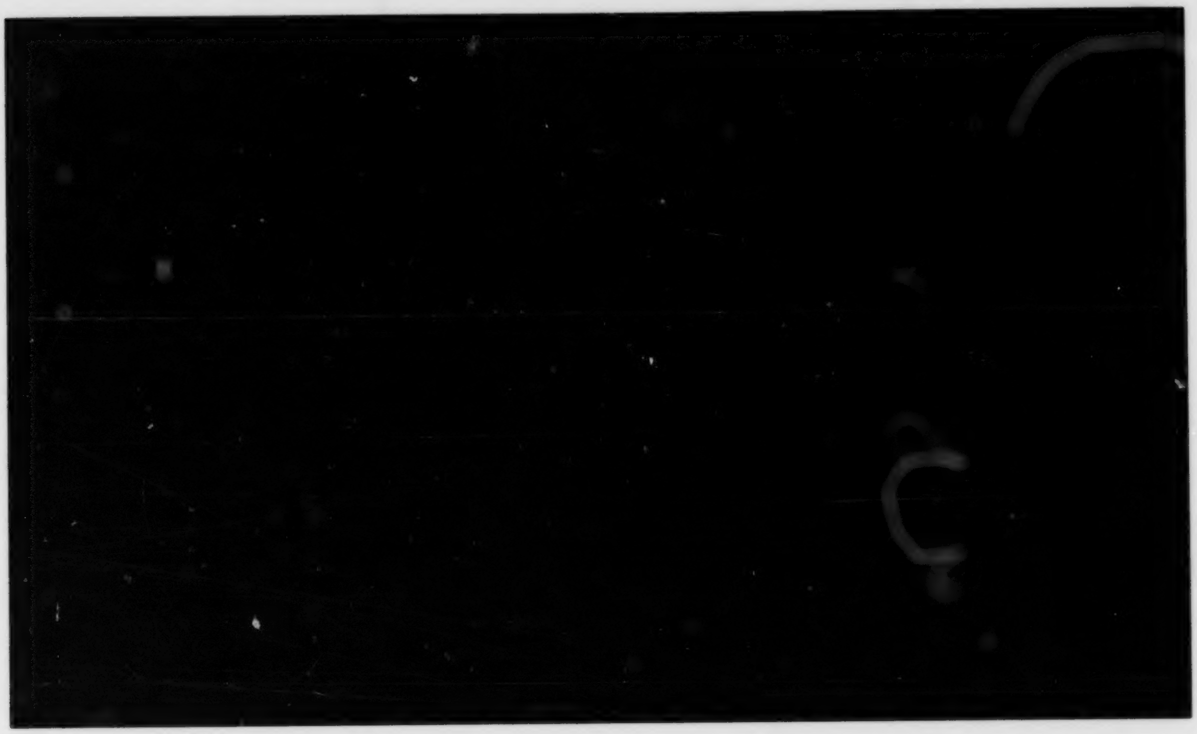
When did ancestral Europeans first contemplate the Atlantic Ocean and wonder what lay beyond its horizon? For most of the past half million years, while the Ice Age glaciers periodically advanced and retreated across Europe, the continent was sporadically occupied by our early ancestors. These creatures had brains smaller than those of modern humans, but were competent hunters, tool makers and fire users nevertheless. Although they must have known the ocean, they almost certainly lacked the skills or ambitions necessary to venture farther than swimming distance from shore, and may have totally ignored the salt water, which couldn't even quench their thirst.

By the time of the last Ice Age, between about 35,000 and 15,000 years ago, Europe was inhabited by a fully modern form of human. These were *Homo sapiens*: people who created the paintings and carvings found on the walls of caves throughout the portion of Europe that lay to the south of the ice-sheets. In this artwork we find the first hints that humans were aware of the sea and its occupants: representations of salmon (which might have been known from rivers rather than from the ocean) as well as occasional depictions of seals, which are exclusively marine animals.

At the opposite end of Eurasia, people of this period had boats or rafts which allowed them to reach and settle Australia. Although sea levels at the time were much lower than at present, Australia was still separated from Eurasia by 80 kilometers of open water. While there is no evidence that Ice Age Europeans built or used boats, they almost certainly hunted along the ocean shore, and perhaps on the pack ice that extended from the western coasts of Europe at the height of the last glacial period. They must have created myths which explained the existence of the sea and its inhabitants, but we can only guess their thoughts on phenomena such as waves and tides, or on what lay beyond the ocean.

The First Sailors

The end of the Ice Age saw a rapid acceleration in the rate of technological and economic change across Europe, as in most other regions of the world. By 8000 B.C., as postglacial sea levels rose and the North Sea expanded, eventually separating England from continental Europe, hunting peoples living along its coasts began to develop an efficient exploitation of coastal and marine resources. After rising sea levels had finally separated England from Europe, the simultaneous appearance of new agricultural technologies and new artifact styles in England and Europe attested to continued contact with the continent by boat. By about 2000 B.C., watercraft were sufficiently advanced to be capable of carrying the huge "bluestones" of Stonehenge from their place of origin in Wales for a distance of at least 100 kilometers along the Bristol Channel, or several hundred kilometres around Land's End and up the English Channel to the mouth of the Avon River. Although these stones were probably carried on crude rafts, or slung between two large catamaran-style canoe hulls, their transport does indicate a relatively sophisticated knowledge and use of the sea.



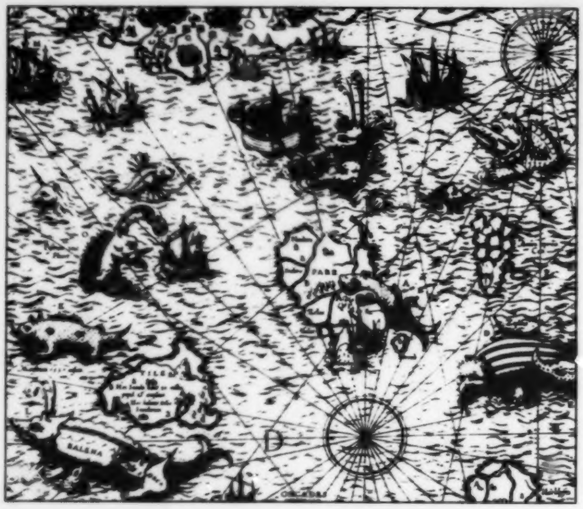
Stonehenge, on England's Salisbury Plain, was constructed between approximately 4,000 and 3,500 years ago. The stones which form its inner ring were transported by sea from Wales.

Models and paintings from Egyptian tombs show that as early as 2000 B.C. the Egyptians were building large freight-carrying boats powered by oar and sail, but these were essentially Nile River boats which were too fragile for deep-sea work. By 1500 B.C., Scandinavian rock carvings show large boats which must have been used for coastal fishing or freighting. Seagoing boats are known from the frescoes and painted pottery of the Minoan and Mycenaean civilizations of the Aegean Sea, and it seems likely that similar boats were in use along most European and North African coasts before 1000 B.C.

Ancient Navigators

By the middle of the first millennium B.C., Mediterranean peoples were beginning to venture on long ocean voyages. The first to develop the necessary ships and skills were the Phoenicean traders living in a series of coastal cities in what is now Lebanon. About 600 B.C., the Egyptian pharaoh Necho II commissioned a small Phoenicean expedition to circumnavigate Africa, a voyage which was accomplished in three years. The Greek historian Herodotus, from whom we have a record of this expedition, discounted the story because the sailors reported that for a portion of their journey, the sun crossed the sky to the north of them rather than to the south, as it does in Mediterranean lands. This observation, the first by Europeans who had passed to the south of the Equator, is now taken as convincing evidence that the Phoeniceans did actually reach southern Africa and probably circumnavigated the continent in the mid-first millennium B.C.

By the eighth century B.C., the Phoeniceans of the eastern Mediterranean had established a major city at Carthage, near the present city of Tunis on the North African coast, and it was the Carthaginians who carried exploration beyond the Pillars of Hercules (the modern Straits of Gibraltar) and into the eastern Atlantic. About 450 B.C., a Carthaginian admiral named Hanno the Magonid explored the west coast of Africa at least as far south as Cape Verde. He is said to have planted colonies in the area and certainly established trading relationships with the native populations of the region. There is also evidence that Carthaginian traders were moving northwards along the western coast of Europe by this time, and were trading for tin with the native peoples of western Britain.



"Ancient cartographers illustrated the perils and terrors of the oceans by populating them with fearsome monsters."

In their explorations and subsequent trading voyages along the West African coast, Carthaginian sailors may have begun the process of discovering islands in the eastern Atlantic. Ships driven by storms off the west coast of Africa seem to have discovered the Canaries, which lie only 100 kilometres offshore, and possibly Madeira a further 500 kilometres to the northwest. Local legends tell of a hoard of Carthaginian coins, as well as a Carthaginian statue, found on the small island of Corvo in the mid-Atlantic Azores group. These legends appeared soon after the Portuguese had settled the Azores in the mid-fifteenth century, but no coins, statue or other archaeological remains of early settlement have been identified, and it seems likely that these stories have their origin in local fantasy. The Phoeniceans were essentially coastal sailors, who probably felt uncomfortable out of sight of land and who had no motivation for exploration into the deep Atlantic.

Ultima Thule

Although the Phoeniceans developed the techniques and skills necessary for ocean sailing, other Mediterranean peoples made use of their growing knowledge. One such sailor, whose name has come down to us through the works of several ancient historians, was a geographer and mathematician named Pytheas, who lived in the Greek colony at what is now Marseilles. Around 330 B.C., Pytheas is reported to have sailed west through the Pillars of Hercules and then north, perhaps following the route of the Phoenicean metal-merchants who had established a trade in western Britain. Continuing northward, Pytheas came eventually to a land called Thule, which lay six days' sail north of Britain and one day's sail south of a frozen sea. Here he saw the midnight sun at midsummer, and was told that in winter the sun never rose. He described a phenomenon he called the "sea-lung," in which earth, water and air were mingled in a heaving mass that could not be navigated, and which suggests an unpleasant and distinctively North Atlantic mixture of fog and pack-ice combined with a heavy swell.

Pytheas' Thule soon became known as *Ultima Thule* — the most distant place on earth. His observations on the midnight sun, long winter night and sea ice, strongly suggest that Pytheas did indeed have knowledge of a far northern location. It has been argued that he may have reached Iceland, and thus become the first European to make an extensive crossing of North Atlantic waters. This seems unlikely, however, since Thule was described as being inhabited by people who grew grain and who also ate fruit, roots and honey, whereas Iceland seems to have been uninhabited until late in the first millennium A.D. Pytheas' Thule more probably lay on the western coast of Norway, a location which he could have reached using Phoenicean sailing technology and without leaving sight of land.

The Roman Empire adopted the Phoeniceans' nautical technology, as well as their overseas trade routes. In the east, they extended European commerce across the Arabian Sea to India. To the west, they knew of the Canary Islands off the west coast of Africa. However, the Romans do not appear to have been interested in Atlantic exploration or trade, and there is little indication that they continued the ventures of Pytheas or other early explorers. Some have suggested that the Romans may have reached Iceland, but the only evidence of contact is three Roman coins from the third century A.D., recovered from Icelandic archaeological excavations. These coins likely reached their resting places much later — perhaps through Viking looting of a European coin-hoard. In the absence of any written mention of Roman expeditions in the north or west, or of any other archaeological evidence of Roman occupation in Iceland or other Atlantic

lands, these three coins are not sufficient evidence to suggest early Roman voyages into the deep Atlantic.

As the power of Rome faded and Europe gradually entered the Middle Ages, the intellectual and economic energies of the continent began to be directed inwards. The geographical knowledge of the ancient world, including the concept of a spherical earth and the notion that one could sail westward from Europe to the Indies, was lost until the rediscoveries of the Renaissance.

Rather surprisingly, the first discoveries of lands to the west of Europe were not made by peoples who had inherited the knowledge and technology of the Classical Mediterranean world. Instead, they were made by Northern Europeans — Celtic and Germanic peoples relying on native boat-building technologies and knowledge of the northern Atlantic. Their conception of world geography had little to do with the learning of classical times, and their motives for westward voyages were vastly different from those of the cautious Mediterranean traders. With them, Atlantic exploration enters a different world, a world of northern mists and ice.

Boats are common motifs in the ancient rock art of Scandinavia. This 3,500-year-old petroglyph from Göteborg in Sweden shows boats or small ships with high curved stem and stern.

CHAPTER 2

THE LAND OF PROMISE OF THE SAINTS

The Irish were the first Europeans to develop the abilities and the ambition to travel far into the northern Atlantic. By 800 A.D., Irish monks had settled islands as distant as Iceland. The legendary sixth-century voyage of St. Brendan has even suggested an early Irish discovery of the New World.

This silver chalice decorated with gold filigree and enamel dates from the early eighth century. It was found at Ardagh, Ireland, with other objects in a cache which had probably been hidden in order to protect it from Viking marauders. (Height: 18 cm)

The Christianization of Europe was a process which took over 1,000 years to complete. More than a religious movement, it was a phenomenon which consolidated the culture of the western Roman Empire, and gradually spread that culture throughout Europe. Over the first millennium of our era, it gradually transformed a great diversity of tribal peoples into a population which shared certain beliefs and outlooks on the world, and which shared access to the knowledge accumulated by earlier civilizations. Christianity was the basic force which produced the first truly European civilization, the "Europe of Latin and the horse" which we now refer to as "mediaeval." Surprisingly, it also served to stimulate early exploration across the Atlantic Ocean.

Monumental stone crosses, such as this example from County Tipperary dating from the eighth century A.D., are scattered across Ireland. Their decoration reflects a blend of local artistic traditions with styles derived from continental Europe.

Holy Navigators

As early Christianity spread westward from the Middle East, different peoples took up the new religion in diverse fashions, each emphasizing a different manner in which to practice its teachings. In Ireland, as in North Africa, the monastic ideal became that of the hermit living in total isolation from all other human society. The Christian hermits of North Africa took themselves into the sand deserts, or isolated themselves atop stone pillars. The Irish equivalent of the desert hermit committed himself to the sea, with or without knowledge of a direction or a destination, in order to find an isolated rock or island where he could be alone with God and the devil. Three such monks arrived at the court of King Alfred the Great in 891 A.D. They had landed on the west coast of England, having left Ireland a week earlier in a small boat without oars and with food for only seven days, determined to serve God wherever He took them. Voyages such as theirs had been undertaken by Irish monks for several centuries previously, and some of these voyages seem to have taken Irishmen far across the Atlantic.

Ireland was Christianized early in the fifth century A.D., when St. Patrick founded a church and mission settlement in Ulster. The island became a stronghold of the new religion and a leading centre of Christian learning and culture. Throughout these centuries, monks set off into the surrounding ocean, eventually discovering and inhabiting many northern Atlantic islands. Using these islands as stepping-stones, they were the first Europeans who had the capability and the inclination to travel into the far reaches of the Western Ocean, and perhaps to make a landing on the eastern coast of Canada.

An Irish monastery around the year A.D. 800. The monks did not wear distinctive clothing, and the buildings did not differ from secular structures. Since most early Irish monastic buildings were of wood, nothing remains except a few small churches dating from the eighth century or later.

The Curragh

The early Irish monks travelled in boats called curraghs, wood-framed with a covering of sewn ox-hides. Julius Caesar first described similar boats in the hands of the natives of Britain, and small curraghs are still used by fishermen of western Ireland today. Powered by oars and by a square sail, light enough to ride the largest ocean swell like a resting seabird, a well-built curragh was able to make extensive offshore voyages.

The seaworthiness of the curragh was recently demonstrated by the adventurer Tim Severin, who sailed a reproduction of such a boat from Ireland to Newfoundland in the summers of 1976 and 1977. His ship *Brendan* was 36' (11 metres) in length with an 8' (2.4 metre) beam — about the size of a small modern sailing yacht. She was built in the traditional pattern, using traditional materials: a light framework of ash splints tied together with 1,600 leather thongs, covered with 49 ox-hides tanned in oak bark and dressed with wool-grease. Although she weathered several storms, and was once punctured by ice, the *Brendan* made up to 115 miles (185 kilometres) per day and never put her crew of five at exceptional risk. On the journey they encountered the fog, icebergs, whales and other phenomena which are prominent features of the ancient voyage of *Brendan*'s namesake: Saint Brendan the Navigator.

The Voyage of Saint Brendan

Sea-journeys by curragh produced one of the most popular forms of early Irish folk-tale, the "imram," a fantastic sea-story which usually emphasized adventure at the expense of factual history. This pre-Christian literary form was soon adapted to the new world of the *peregrini*, the sea-wandering monks, and the most famous of such stories comes down to us as the *Navigatio Sancti Brendani*, the Voyage of Saint Brendan. Some scholars and Irish nationalists have argued that this story recounts the Irish discovery of the New World during the sixth century A.D. Such a conclusion is very dubious, but certain elements of the St. Brendan story do suggest that the Irish had knowledge of the central or western Atlantic at a very early date. It is worth looking more closely at the *Navigatio* — not least because it is a very entertaining tale.

The traditional date for St. Brendan's birth is 489 A.D. He led a long life dedicated to the Church, and founded several monasteries. He was also a great traveller, undertaking boat voyages on Church business to Scotland, Wales, Brittany, and perhaps to the Orkneys and Shetlands. In old age he was told of the "Land of Promise of the Saints," a blessed country located far out to sea and protected by thick banks of fog, which had been visited by an elderly acquaintance. In this fabulous country there was perpetual daylight; all plants were constantly in flower; all trees bore delicious fruit, all stones were precious; and one needed neither food nor drink, but constantly felt as though one were full of new wine. St. Brendan decided to undertake a final voyage in order to visit this wonderful country, and had a curragh built and provisioned for a journey of 40 days. Accompanied by 17 monks, he then set sail on a voyage which was to last for seven years, traditionally between A.D. 565 and 572.

During this extended voyage, St. Brendan and his crew encountered many marvels. On one island they discovered sheep larger than cattle, and on another nearby, flocks of birds which sang the holy offices in Latin. An island on which they landed and built a cooking fire turned out to be an indignant whale named Jasconius; the whale occasionally reappeared during their travels, and very considerately allowed his back to be used for several fire-less picnics. Provisions for their long journey were provided by various monastic or angelic persons discovered on several of the islands which they visited. They even located Judas Iscariot, living alone on a small rock and suffering everlasting torment. Finally, they reached a vast country and explored it for 40 days, eventually coming to a river they could not cross. A young man appeared, confirmed that they had indeed reached the Land of Promise of the Saints, and advised them to return home. Taking his advice, they returned to the sea laden with fruit and precious stones, and sailed for home.

It is difficult to identify the perpetual daylight, fruit trees and jewelled paths of the Land of Promise with any region of the known world. Among the miraculous and fantastic adventures of the holy monks, however, there are descriptions of more earthly phenomena. Stripped of their marvellous attributes, the reports of whales, fogs, rocky islands, wild sheep and massive flocks of seabirds paint a distinctively

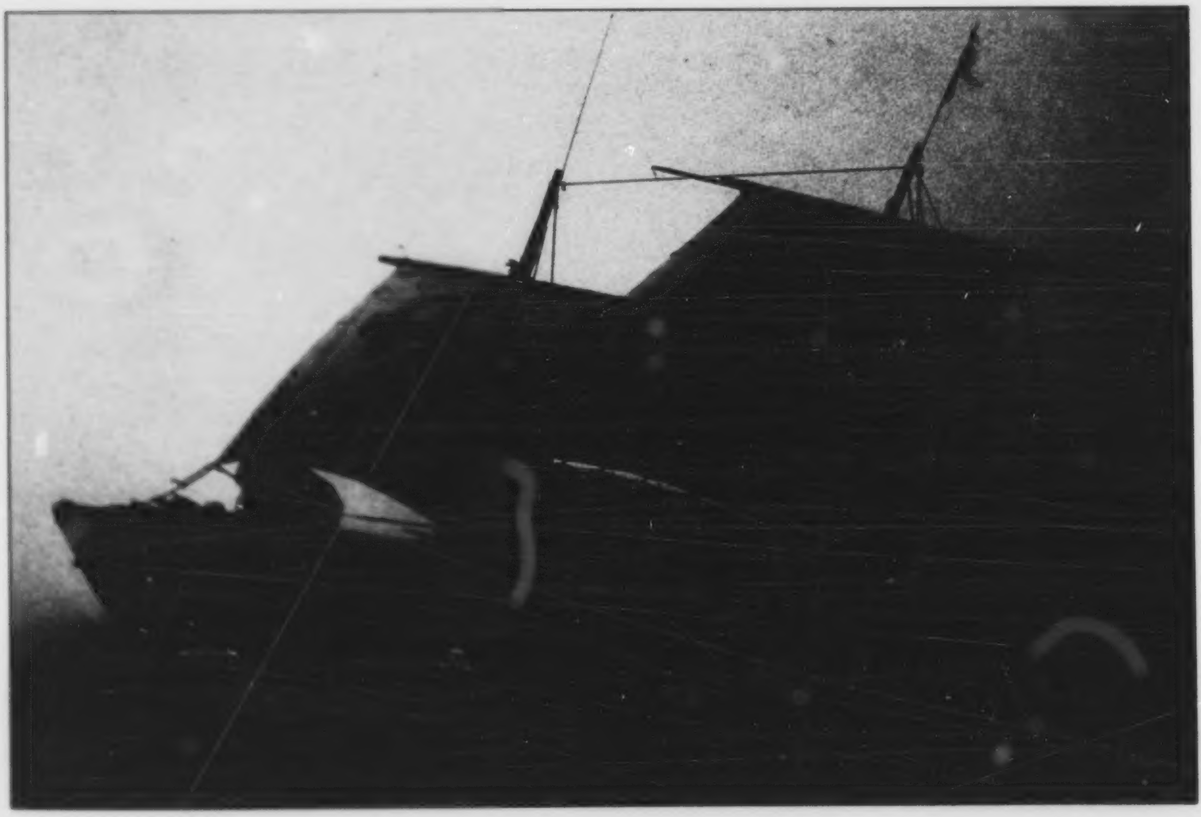
North Atlantic picture, perhaps based on knowledge gained from voyages made to the islands north of Scotland: the Hebrides, Orkneys, Shetlands and perhaps the Faeroes. Other descriptions suggest that the ancient Irish may have had even more extensive knowledge of the North Atlantic. At one point in St. Brendan's travels:

> *A high mountain came up towards the north. At a distance it seemed wreathed in light cloud but the cloud turned out to be smoke belching from its peak. The wind carried them swiftly towards it. The cliffs at the water's edge were so high that the summit was obscured; they were as black as coal and wonderfully sheer, like a wall ... A fair wind carried them away southwards, and when they looked back from afar they saw the mountain, clear of clouds, vomiting forth flames sky-high and then sucking them back upon itself, so that the whole mass of rock, right down to sea level, glowed like a pyre.*

This sounds remarkably like a description of a volcanic island. Although accounts of Mediterranean volcanoes would have been known to educated Irish churchmen, the presumed North Atlantic position of this volcano strongly suggests that the description refers to Iceland.

A far northern location is also suggested by a report of the wind suddenly dropping, and the sea becoming calm and coagulated, suggesting a description of pack-ice. An experience with ice in another form is hinted by the following description:

> *One day after they had celebrated Mass, there appeared to them a column in the sea which did not seem to be far away, and yet it took them three days to get near it. When St. Brendan had come near, he looked for the top, but could see very little because it was so high. It was higher than the sky. Moreover, it was surrounded by an open-meshed net, with openings so large that the boat was able to pass through. They did not know what the net was made of. It was silver in colour but it seemed to be harder than marble. The column itself was of clearest crystal.*



In the summers of 1975 and 1976, the adventurer Timothy Severin crossed the Atlantic, from Ireland to Newfoundland, on the Brendan, a reconstruction of the type of curragh used by early Irish monks.

Most of the buildings of the monastery of Glendalough, in County Wicklow, date from the eleventh or twelfth centuries. The round tower is a dramatic reminder of Viking raids; from towers such as these, lookouts spied the approach of Viking longships, and local people took shelter behind their solid stone walls.

This would appear to be a clear depiction of an iceberg, surrounded by pack-ice or "bergy bits" broken from the main berg. Almost all large icebergs of the North Atlantic calve from the glaciers of Greenland, and drift southward with the Labrador current, eventually to melt in the warm waters of the Gulf Stream. They are most plentiful in Baffin Bay and off the coasts of Labrador and Newfoundland, and rarely drift to the east of 36° W longitude, in the mid-Atlantic approximately 2,000 kilometres west of Ireland.

In sum, the *Navigatio Sancti Brendani* contains hints that, by at least the ninth century A.D., when the *Navigatio* was written, the Irish had knowledge of Iceland and may have occasionally voyaged into the mid-Atlantic regions to the west. Any further conclusions regarding a possible Irish discovery of the New World must be pure speculation, based on the improbable and marvellous adventures reported in the *Navigatio*. There is, however, other and more trustworthy evidence to support the claims that early Irish monks did explore the northern Atlantic, and did settle islands as far west as Iceland.

Dicuil the Geographer

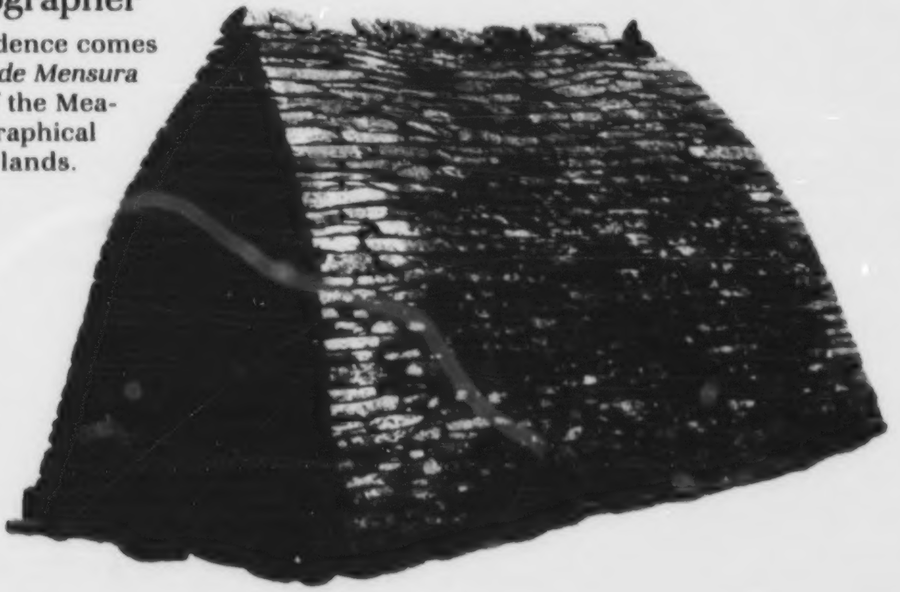
One such piece of evidence comes from a book entitled *Liber de Mensura Orbis Terrae* (The Book of the Measure of the World), a geographical description of all known lands. This book was written in 825 A.D. by an Irish monk named Dicuil, who was employed at the court of Charlemagne. On the basis of personal knowledge, and of talking to other monks, Dicuil states:

> *All round our island of Hibernia (Ireland) there are islands, some small, some tiny. Off the coast of the island of Britain are many islands, some big, some small, some middling; some lie in the sea to the south of Britain, others to the west; but they are most numerous in the northwestern sphere and the north. On some of these islands I have lived, on others set foot, of some had a sight, of others read.*

The numerous islands "in the northwestern sphere and the north" must refer to the Hebrides, where the Irishman St. Columba had established a monastery at Iona as early as 563 A.D. They probably also include the Orkney and the Shetland Islands, the latter separated from the Orkneys by 80 kilometres of open sea. Archaeological remains of early Irish monastic settlement have been found on all these islands.

Dicuil may have been referring to islands lying even farther north and west when he states:

> *There are many islands in the ocean to the north of Britain which can be reached from the northernmost British Isles in two days' and nights' direct sailing with full sails and an*



On the treeless Dingle Peninsula of western Ireland, early monks constructed their dwellings and places of worship from stone. The oratory of Gallarus, shaped like an upturned boat, is the best preserved of such buildings.

The North Atlantic

The North Atlantic Ocean can be seen as a huge circular organism, 6,000 kilometres across and up to seven kilometers deep. It takes its energy from several forces: the heat of the tropical sun combined with the freezing chill of the Arctic night; the winds and storm systems which brush across its surface; the rotation of the earth; and the tidal forces which twice a day pulse into the ocean from the south, gradually dissipating until they disappear 18 hours later among the ice floes of the Arctic. The heart of the organism is the Sargasso Sea, a weed-filled, sun-scalded oval lying between the Caribbean and the African coast. Around this heart circulates a massive clockwise swirl of water, out of which flows the warm artery of the North Atlantic, the Gulf Stream. This broad and rapidly flowing current carries subtropical water up the east coast of North America, across the Grand Banks, and northeastward to bring warm seas and a temperate climate to northwestern Europe.

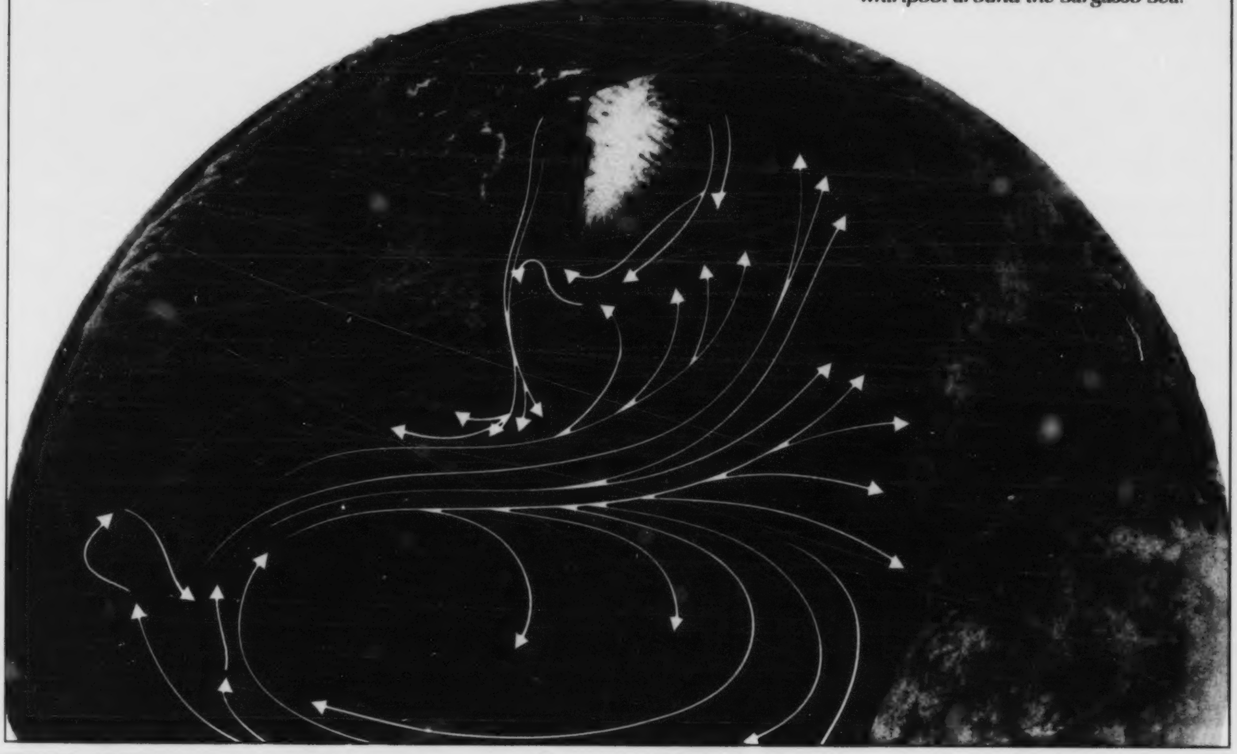
Contending with the warm Gulf Stream waters, the pack ice formed in Arctic seas moves southward each spring, riding a series of cold currents which flow between Labrador, Greenland and Iceland. The ice which moves south of Spitsbergen in the Barents Sea, and which occasionally reaches Iceland, is soon melted in northern offshoots of the Gulf Stream. A massive stream of pack ice and icebergs flows down the eastern coast of Greenland, but these are caught by another subartery of the Gulf Stream and sent back northwards into Baffin Bay. The only cold surface water which penetrates deeply into the Atlantic is that of the Labrador current, flowing from Baffin Bay to the waters around Newfoundland, and each spring carrying vast amounts of ice, as well as icebergs calved from the glaciers of Greenland and arctic Canada. The ice-choked and stormy Labrador Sea, and the floating mountains of glacial ice which wander down the eastern shores of Newfoundland each summer, presented hazards unknown to the early navigators of western and northern Europe. The Labrador Current also brings arctic life forms — fish, seals, walrus, whales and polar bears — to Newfoundland coasts which lie as far south as the warm shores of western France.

The winds of the North Atlantic parallel the ocean currents over which they flow. The entire system circulates in a clockwise gyre around a high-pressure area, centred over the Azores and extending westward across the Sargasso Sea. Around this high, the Trade Winds flow southward down the coasts of Portugal and North Africa, then swing westward towards South America and the Caribbean. Their northern counterparts are the Westerlies, flowing up the North American coast and then northeastwards to the British Isles and Europe. To the north of the Westerlies, in the latitudes of Norway and Iceland, is a weaker set of northerly and northeasterly winds composed of cold and heavy Arctic air, sinking and flowing southwards around a high-pressure area centred on the Greenland ice cap. These were the winds used by early northern navigators to reach Greenland and eastern Canada, in the same way that the Spanish used the Trade Winds to reach the Caribbean and South America. The eastbound voyages of both northerners and southerners depended on the Westerlies and the Gulf Stream to carry them back to Europe.

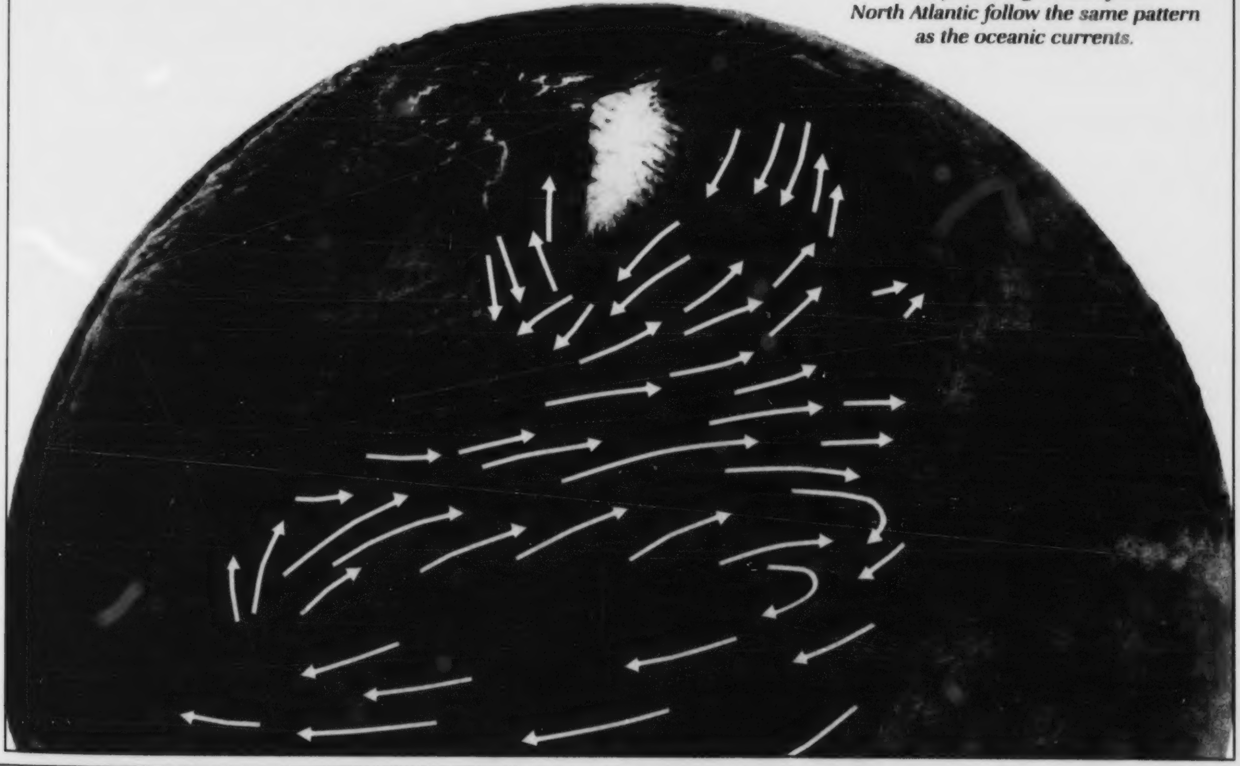
For early navigators, as for contemporary pleasure sailors, the North Atlantic was essentially a summer sea. In winter, the temperature gradient between subtropical and Arctic air masses steepens. Consequently, the winds are stronger and more dangerous. Autumn hurricanes and tropical storms breed in the Carribean and whirl northwards, throwing destructive winds and massive waves across the fishing banks of eastern Canada and far out into the Atlantic. Winter darkness, ice, gales and freezing spray make the northern portions of the ocean a region to avoid from autumn until spring. The mediaeval Norse had rules against beginning an Atlantic voyage after September, and most other early voyagers soon learned to do likewise.

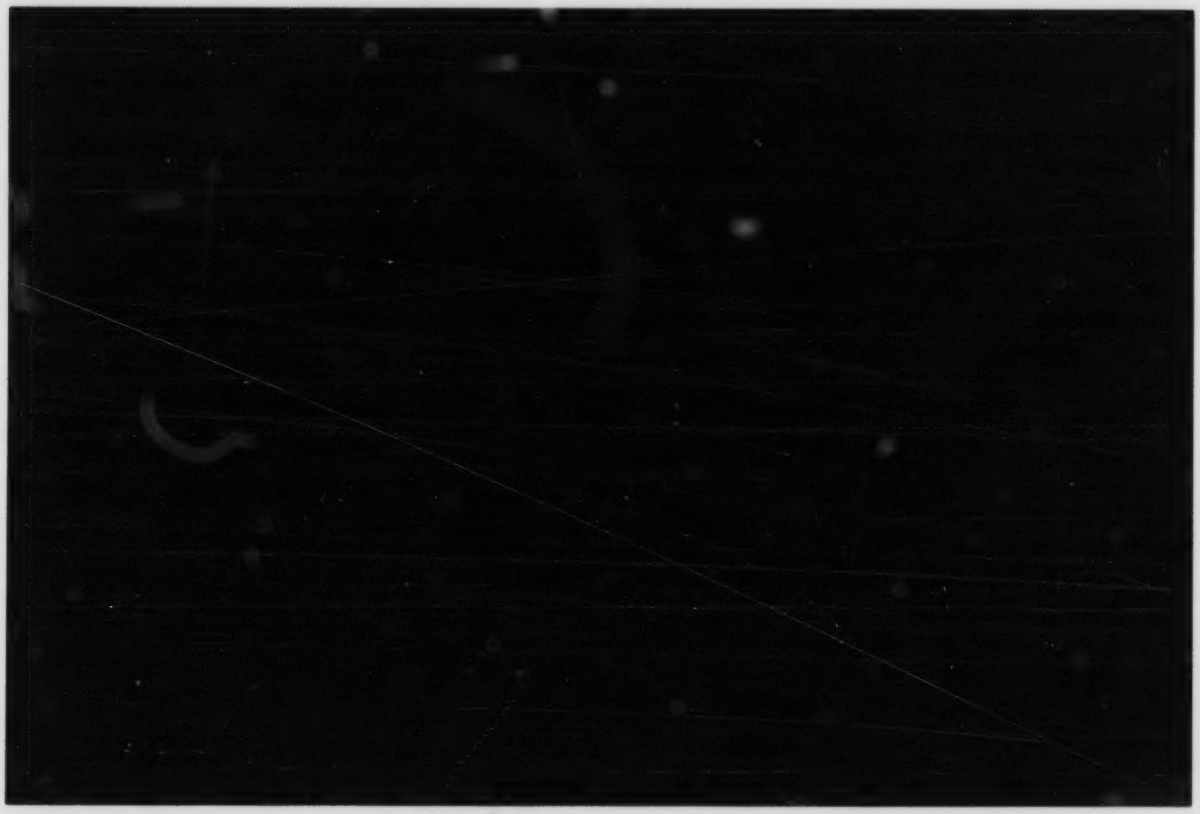
Yet despite constant threats of fog, drift-ice and storms, the summer Atlantic can bring long periods of fine weather. Under clear skies and a pleasant breeze, the long ocean swells roll endlessly toward a distant horizon. In northern regions the sky never darkens during summer nights, and the calm surface of the ocean is alive with whales, seals and seabirds. These were the conditions which, at some time well over 1,000 years ago, first tempted Europeans to pilot their fragile boats westward into the immensity of the North Atlantic.

North Atlantic currents form a huge whirlpool around the Sargasso Sea.



The prevailing winds of the North Atlantic follow the same pattern as the oceanic currents.





It was without doubt the eruption of an Icelandic volcano, such as this, which is described in The Voyage of Saint Brendan: *"the whole mountain, right down to sea level, glowed like a pyre."*

undropping fair wind. A certain holy man informed me that in two summer days and the night between, sailing in a little boat of two thwarts, he came to land on one of them. Some of these islands are very small; nearly all of them are separated one from the other by narrow sounds. On these islands hermits who have sailed from our Scotia [another name for Ireland] *have lived for roughly a hundred years. But, even as they have been constantly uninhabited since the world's beginning, so now, because of Norse pirates, they are empty of anchorites, but full of innumerable sheep and a great many different kinds of seafowl. I have never found these islands mentioned in the books of scholars.*

This description most adequately fits the Faeroe Islands, located 200 kilometres northwest of the Shetlands and almost midway between Scotland and Iceland. Their name ("Faereyjar," Sheep Islands in Old Norse) is derived from the wild sheep found there by the early Norse settlers, which must have been left by the Irish hermits who had previously occupied the islands. The description is also reminiscent of St. Brendan's "Isle of Sheep" and "Isle of Birds."

Another of Dicuil's statements places Irish hermits even further to the north and west. Continuing his description of the North Atlantic islands, he reports on an island that lies six days' sail to the north of Britain:

It is now thirty years since priests who lived in that island from the first day of February to the first day of August told me that not only at the summer solstice, but in the days on either side of it, the setting sun hides itself at the evening hour as if behind a little hill, so that no darkness occurs during that brief period of time, but whatever task a man wishes to perform, even to picking the lice out of his shirt, he can manage it precisely as in broad daylight... They deal in fallacies who have written that the sea around the island is frozen, and that there is continous day without night from the vernal to the autumnal equinox, and vice versa, perpetual night from the autumnal equinox to the vernal; for those sailing at an expected time of great cold have made their way thereto, and dwelling on the *island enjoyed always alternate night and day save at the time of the solstice. But after one day's sailing from there to the north they found the frozen sea.*

This description can only apply to Iceland, which lies just below the Arctic Circle and thus falls just short of experiencing the midnight sun at midsummer. The ice conditions portrayed in this account also fit those of Iceland, the north coast of which lies close to the edge of the Arctic pack.

The "Papar" of Iceland

Dicuil's geographical treatise recounts that Irish monks had probably settled the Faeroe Islands shortly after A.D. 700, and that by A.D. 800 they had established at least seasonal occupation of Iceland. His work, that of a sober geographer, supports the suggestion that the earlier and much more fanciful accounts of St. Brendan's travels may not have been based entirely on fictional stories. Dicuil's descriptions, in turn, are confirmed by accounts from a non-Irish source: that of the early Norse settlers of Iceland. According to *Landnamabok*, the Icelandic Book of the Settlements written in the twelfth century and recounting the Norse settlement of Iceland after about A.D. 870:

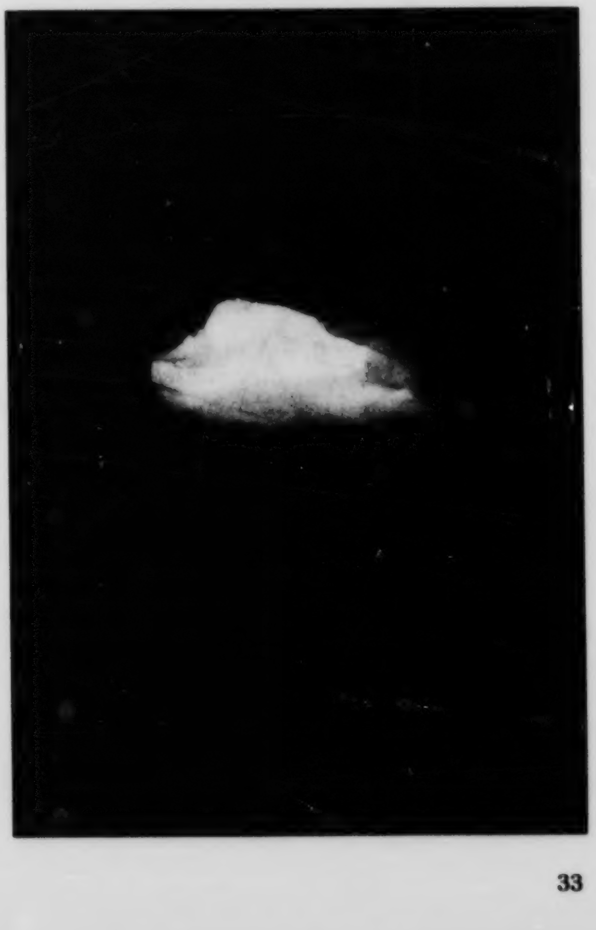
Before Iceland was settled from Norway, there were men there whom the Norsemen style "papar." These were Christians, and people consider that they must have been from the British Isles, because there were found left behind them Irish books, bells, and croziers, and other things besides, from which it might be deduced that they were Vestmenn (Irishmen). *It is recorded in English books that at that time there was trafficking to and fro between those countries.*

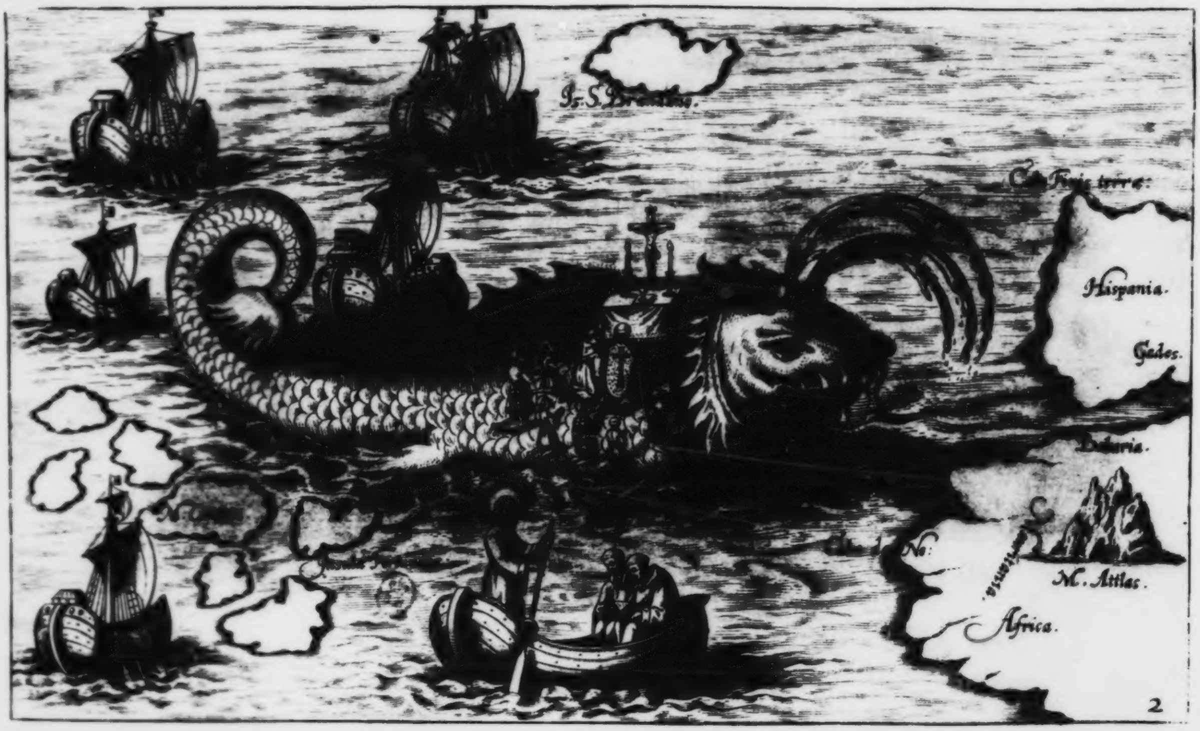
The term "papar" is probably derived from the Latin "papa," referring to priests or monks. Further evidence of Irish occupation remains in the form of Icelandic placenames such as Papey and Papos. Such names are scattered around the southeastern coast of the island, the area where early voyagers from Ireland would most likely have landed. Yet archaeological work (some of it undertaken by Dr. Kristjan Eldjarn, an archaeologist who was also Prime Minister of Iceland) has not yet turned up any definite evidence of early Irish occupation of the island.

Islendingabok, another twelfth-century Icelandic history, goes on to say that the papar "went away because they were not prepared to live with heathen men." We can easily imagine the passionate exhortations, threats, and violent confrontations between holy Irish monks and the Norse followers of Thor and Frey, which lie hidden behind this simple and laconic statement.

This statement also leaves an important question unanswered. Where did the "papar" flee when Norse ships began to arrive, carrying heathen men and (perhaps more dangerously) heathen women intent on settling Iceland? Some may have returned to Ireland, but much of that country had already been colonized by the Norse, and a return to Ireland meant renouncing vows of hermetic solitude. The islands east of Iceland were already in the hands of Norse settlers, and only isolated skerries were left for a life of monastic seclusion. Some

How does one describe an iceberg seen for the first time? The narrative of St. Brendan's voyage tells of a column in the sea, the colour of silver, harder than marble and as clear as crystal.





The friendly whale Jasconius provides his back as a temporary island on which St. Brendan may say mass. This woodcut is from a work published in 1621.

may have temporarily settled the tiny and fiercely volcanic Vestmannaeyar (Irishman Islands) off the southwestern coast of Iceland, although these islands are reported to have been named from a later occupation by mutinous Irish slaves.

Hvitramannaland

Other "papar" may have fled further west, to a Greenland whose mountain peaks may have been glimpsed in Arctic mirage by sailors blown off course during earlier voyages from Ireland to Iceland. When Eirik the Red arrived in Greenland a century later he found remnants of human occupation, including skin boats and stone tools. It has been suggeste that these were the remains of Irish settlement, but it seems more likely that they had been left by native American occupants of Greenland.

On the other hand, the Icelandic and Greenlandic Norse apparently thought it possible that Irish monks had established an occupation in the New World prior to their own eleventh-century voyages to the area. This possibility is recognized by occasional references to a country known as *Hvitramannaland* (White Man's Land) or *Ireland the Great*, which is generally placed in the vicinity of what is now Labrador. According to *Eirik the Red's Saga*, two native boys who were captured in Labrador during the early eleventh century reported that, in a country which lay close to their own, lived men who "walked about in white clothes and whooped loudly, and carried poles and went about with flags. They [that is, the Norse] concluded that this must be Hvitramannaland."

Two other stories tell of Norsemen who were storm-driven to the same country. *Landnamabok* reports that a sailor named Ari Masson

> *...was driven off course to Hvitramannaland, which some call Ireland the Great. It lies west in the ocean, near Vinland the Good. It is reckoned six days' sail west from Ireland. Ari failed to get away and was baptized there. The first to tell of this was Hrafn the Limerick-farer, who had spent a long time at Limerick in Ireland.*

An Icelandic saga tells of Gudleif Gunnlangson who, on a voyage from Dublin to Iceland, was also blown to an unknown land in the west. Here he was met by a crowd of Natives speaking a language which he took to be Irish, and by a white man on horseback who warned him away in Norse, and whom he recognized as an Icelandic exile named Bjorn.

The stories of Hvitramannaland are extremely vague. Reported visits to that country are all at best third-hand accounts, and certain elements (such as Bjorn's horse) tend to detract from any credibility which they might be allowed. Moreover, they all refer to events which occurred in the eleventh century, at least two hundred years after the "papar" fled Iceland. As the historian Samuel Eliot Morison has pointed out, the inhabitants of Hvitramannaland "if Irish, must have reached the vast age of Old Testament patriarchs, or else abandoned chastity, mated with native girls, and kept an Irish Catholic community going for a couple of centuries."

The archaeological remains of such a long-lived community should have been found, even in a territory as poorly known as Labrador. We can probably conclude that Hvitramannaland existed only in the minds and legends of the Icelandic Norse. On the other hand, the legends may have been based on the knowledge that some displaced Irish monks had set sail for countries to the west of Iceland. Such holy refugees clearly had the ability and the incentive to reach Greenland, and from there to attain the northeastern coasts of Canada. If they did so, and there lived out their ascetic lives in quiet prayer, they would have left little in the way of archaeological remains or memories in human minds. The total absence of such records should not discredit the possibility that such men may have been the first Europeans to live in our country.

CHAPTER 3

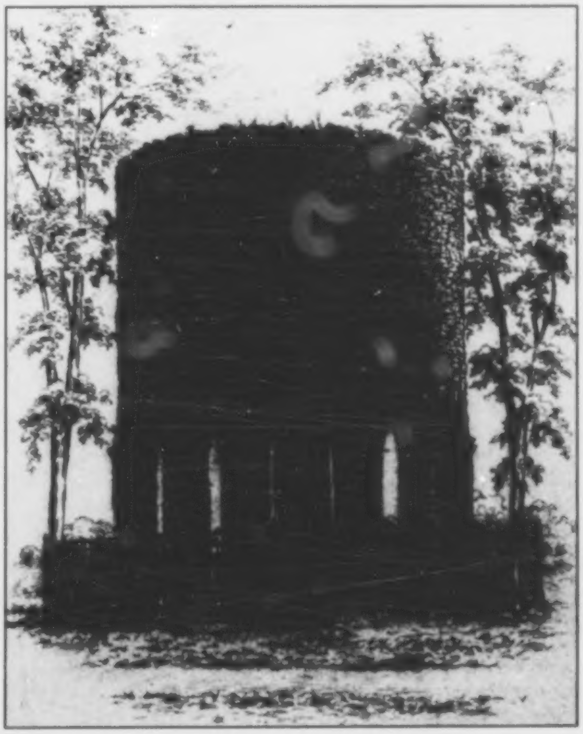
VINLAND

The Norse were the first Europeans known to have definitely landed in the New World, and to have established colonies there. The archaeological remains of one of their settlements have been found on Canada's eastern coast, and they seem to have made occasional visits to the country for at least three centuries.

The Viking warrior carried a round wooden shield with a central boss of iron. Shields were sometimes ornamented with decorative patterns of nails.

The search for Vikings in the New World began in 1837, when the Danish scholar Carl Christian Rafn published a volume which he called *Antiquitates Americanae,* "American Antiquities." In it he proposed that two traditional Icelandic sagas (known as Eirik the Red's Saga and The Greenlanders' Saga) were evidence that Viking-period Europeans had reached North America about A.D. 1000 — 500 years before Columbus. This was not the first time the suggestion had been made, but it was the first time that the idea caught the public imagination. The book was soon translated into English and French, and it set off a search for Norse relics throughout the New World. More than 150 years later, that search continues.

Like most scholarly hunts, this one turned up many false trails, and discovered much evidence which was either mistaken or enthusiastically misunderstood. Most scholarly pursuits are carried out within the confines of an academic discipline. The subject of the mediaval Norse in North America, however, refused to be confined in this way. Instead, it was a scholarly endeavour played out largely in the public press, and in which any discovery, or claim of discovery, found an avid public audience.



This stone tower in Newport, Rhode Island, was built by early English colonists during the seventeenth century. Its construction fits well into colonial American building traditions, and bears no resemblance to mediaeval Scandinavian structures.

In 1936, a prospector convinced the Royal Ontario Museum that he had discovered a cache of Norse weapons on his mining claim near Beardmore in northwestern Ontario. Later investigations showed that the story was false: the weapons are genuine, but they were brought from Norway during the present century.

Why was there such great public interest in a mediaeval Norse presence in the New World? Enthusiasm for the subject is almost certainly related to the fact that, for the past 150 years, most North Americans have been immigrants from Europe or the descendants of recent immigrants. The discovery of an ancient European heritage in North America was interesting to people of recent European ancestry because it gave them a historical stake in the country: it helped people to feel at home among the alien forests and prairies that were so different from the settled homelands of their Old World ancestors.

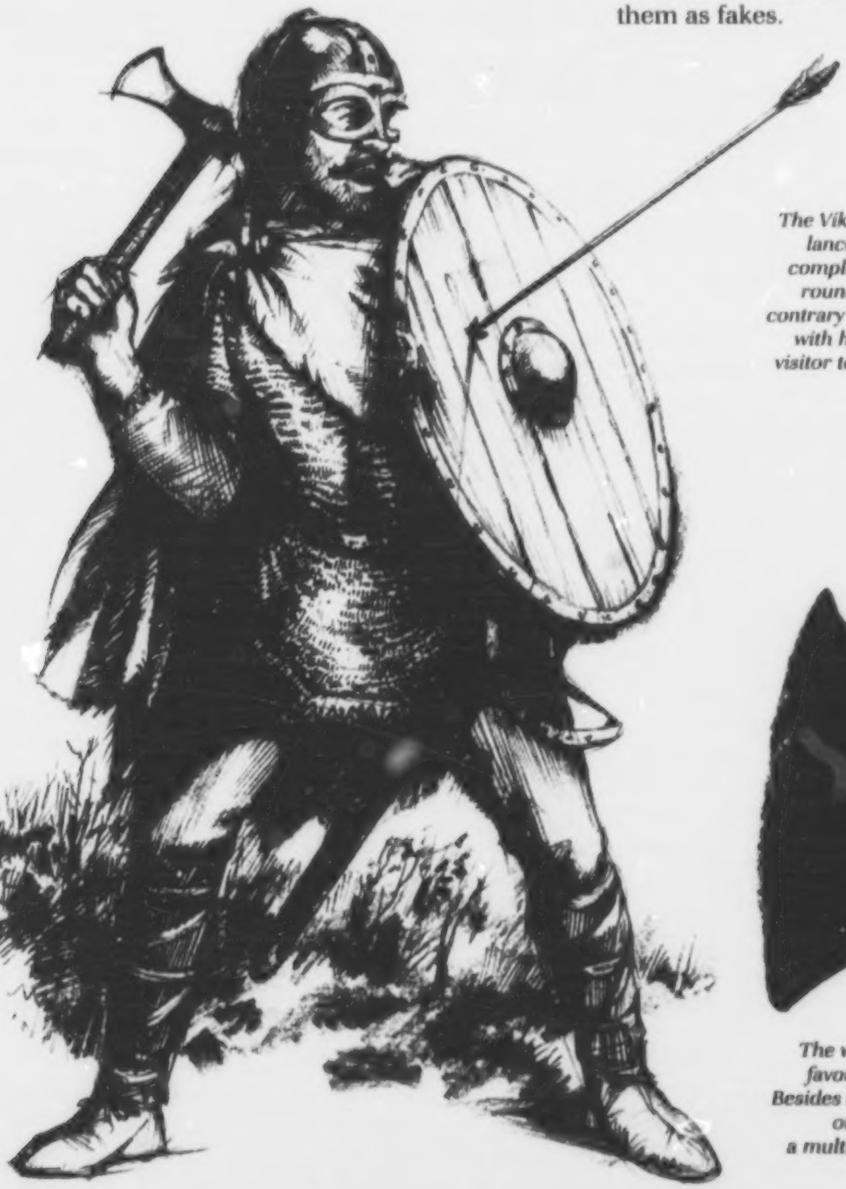
Whatever the reason, several generations of North Americans have been fascinated with Viking exploration in the New World. To feed this fascination, hundreds of books and articles have been written, by individuals ranging from scholars through crackpots to confidence artists. The historical and literary evidence on the subject is very limited. There are, after all, only two legendary stories and a few vague references in other ancient texts. Archaeology, therefore, has been the main field of contention.

Spurious Evidence

Among the most famous archaeological finds associated with the search is a well-built stone tower near Newport, Rhode Island, which for over a century has been interpreted by some as a Viking fortress. Archaeological excavation around the base of the tower has shown that the structure was not Norse, and was undoubtedly built in the Colonial period; there are even historical accounts in which the governor of Rhode Island at the time refers to it as "my stone-built mill." Nevertheless, the "Newport Tower" is still proposed by enthusiasts as evidence of a Norse presence in the New World.

A much more specific piece of evidence was turned up in Minnesota near the end of the last century. This is a stone slab covered in runic writing, telling of a fourteenth-century Norse expedition to the area. The stone was said to have been found by a Swedish immigrant farmer, beneath the roots of a large tree. It was immediately denounced as an obvious forgery, and a bad one at that: the runes were in two or three different styles, and the grammar and language were that of nineteenth-century Scandinavia, rather than of fourteenth-century Iceland. Nevertheless, the "Kensington Stone" now has its own museum.

The Kensington Stone has also spawned finds of several other runic stones: one appeared in Maine a few years ago, but turned out to have been carved by someone whose only knowledge of runic writing came from studying the original fraudulent Kensington Stone. Other runic inscriptions have been found as far west as Oklahoma, and as far south as Paraguay. Scholars of Old Norse have denounced all of them as fakes.



The Viking warrior fought with axe, sword, lance and shield. His equipment was completed by a coat of chain mail, and a round or conical metal helmet which, contrary to popular belief, was not decorated with horns. It is unlikely that any Norse visitor to eastern Canada was as completely equipped as this warrior.

The war-axe and heavy sword were the favoured weapons of Viking warriors. Besides smashing an enemy's shield, armour or bones, the axe also served as a multi-purpose tool in hunting, travelling and working wood.

Canada's unique contributions to the search are the "Beardmore Relics," a genuine and ancient Norse sword, axe and bell which were maintained to have been found on a mining claim north of Lake Superior during the 1930s. The specimens were purchased by the Royal Ontario Museum in Toronto. Closer investigation showed that they had been brought to Canada in 1923 by a young Norwegian immigrant whose father had been a collector of antiquities, and who had later used them as security for a loan.

Most of the other archaeological evidence that has turned up has been equally misinterpreted. Iron battle-axes of an apparently Viking form keep appearing, but turn out to be the blades of nineteenth-century tobacco-cutters. Holes drilled in rocks by nineteenth-century farmers, into which they poured black powder to blast the rocks, are interpreted as holes drilled by Viking sailors, into which they drove iron pegs in order to moor their ships — a technique never employed in the Old World.

A generation ago, the scholarly search for New World Vikings appeared to have reached an impasse. Few scholars, were willing to join the hunt, afraid of sullying their reputations by associating with the long record of fraud and misinterpretation which had accumulated. No genuine archaeological evidence had been recovered in over a century of searching. The few literary and historical records appeared to be mined out; all useful information in the Norse sagas had long ago been recognized, leaving only quibbles over the interpretations of unclear terms and vague geographical descriptions. Mid-twentieth-century scholars knew little more about the subject than had Professor Rafn in 1837, and increasingly, were divided into two camps. In one camp were enthusiasts who believed in most of the fraudulent archaeological evidence, and who pictured bands of courageous Vikings exploring and even settling much of North America. In the other were those who considered the sagas to be fantastic stories, or to reflect, at most, a brief Norse foray to the eastern coast of the continent.

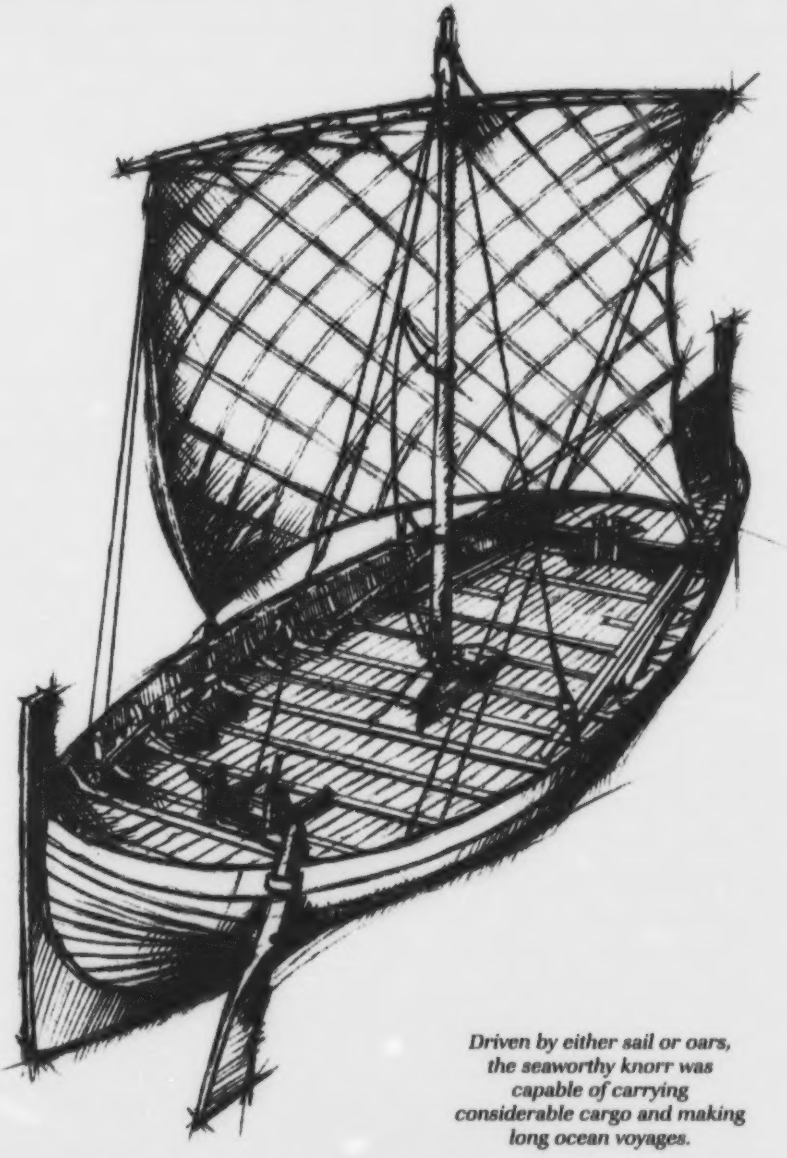
The past thirty years, however, have produced a new wave of archaeological discovery, which has validated the literary evidence and brought new respect to the search for Vikings. It now seems certain that the mediaeval Norse did reach eastern North America, and that they may have visited portions of the area over a period of several centuries. Before examining this evidence, here is a brief look at the background to the Norse venture in the New World.

The Viking Age

During the ninth and tenth centuries A.D., most of Christian Europe became painfully aware of their heathen Scandinavian neighbours to the north. The beginning of Viking expansion is generally marked by the sacking in A.D. 793 of the monastery at Lindisfarne, in northeastern England, and of the holy island of Iona two years later. During the following cen-

For 300 years, from the eighth to the tenth centuries, the Viking Norse travelled and occupied countries further and further from their homelands. While Danes and Norwegians pillaged the coasts of western Europe and even North Africa, the Swedes founded a kingdom in Russia and threatened Constantinople. Their merchants regularly travelled as far as Baghdad. At the same time, Norwegians expanded westward across the North Atlantic to Iceland, Greenland and eastern Canada.

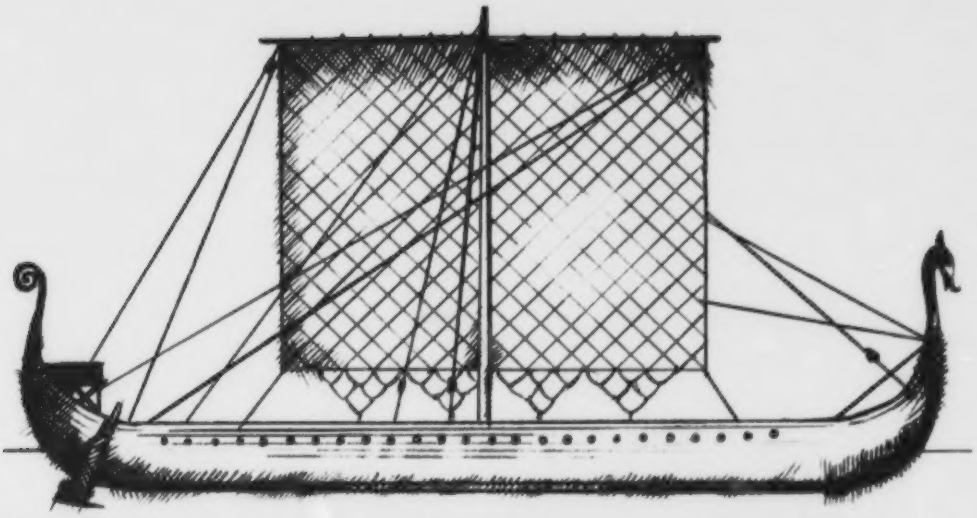
Viking Ships



Driven by either sail or oars, the seaworthy knorr was capable of carrying considerable cargo and making long ocean voyages.

The ships developed by Scandinavian peoples during the Middle Ages were masterpieces of design and technology. Their origin probably lay in the skin-covered boats of the northern Bronze Age, and in small wooden rowing boats used for inshore fishing and travel. By the seventh century A.D., when Irish monks were exploring the North Atlantic in skin-covered curraghs, the Norse were already building large planked ships capable of sailing northern European coasts. As the eighth century drew to a close, western Europeans began to see Viking longships scouting their own coasts, carrying the raiding parties which were to grow into armies of invasion and transform European history.

The longship was essentially a vehicle of war. Twenty-five metres or more in length but only three metres broad, these raiding vessels had flat bottoms which allowed access to shallow bays and rivers, and also permitted the ship to be run up on any beach. Driven across the sea by a large square sail, the ship could also be swiftly rowed in calm waters or up rivers by the thirty or more warriors it carried. The sight of a dragon-prowed longship rounding a headland or nosing into a bay was enough to terrify most of the coastal populations of Europe.



The fast and manoeuverable longship was designed for warrior raids along the coasts and rivers of Europe. Although it could be used for transport, it was not built for the open sea.

The open ocean was another matter. Farley Mowat has aptly noted that the only people whom a longship could frighten at sea were its own crew. Although successful Atlantic crossings have been made during the past century in replica longships, their success may have owed more to luck than to the seaworthiness of the vessels. These long, very narrow, open and essentially fragile vessels were never built to withstand the fury of a North Atlantic storm. More than one terrified crew must have seen their longship swamping or breaking up when struck by a sudden gale while crossing the North Sea or the Baltic.

The vessel which took the Norse westward across the North Atlantic was not the dragon-prowed longship with its brave row of shields along a low gunwale. Rather, it was a more mundane but much more practical and seaworthy vessel called the *hafskip* or *knorr*. Very little was known about the knorr until the 1960s, when two such ships were raised from the bottom of Denmark's Roskilde Fiord; most reconstructions of the ocean-going knorr are now based on one of the Roskilde ships. This was apparently a freighter, 16 metres long and almost 5 metres wide, with an estimated carrying capacity of 15 to 20 tonnes. It was much beamier and deeper than a longship, with high gunwhales, half-decks fore and aft, and probably tarpaulins to cover the midship hold and protect the cargo. It was built in the characteristic double-ended northern style, with overlapped planking held together by iron rivets; the planks were lashed to the frames so that the planking had a flexible elasticity that allowed it to absorb the shock of waves. The ship was steered by a steering-oar or rudder slung over the starboard side, and driven by a large square-sail of heavy woolen cloth. The sail could be shortened or reefed in heavy weather, and could be adjusted diagonally so that it could sail into the wind as well as with the wind.

A few years ago a replica of such a ship, the *Saga Siglar*, followed the old sailing routes from Norway to Iceland, to Greenland and finally to North America. The knorr made good time for a sailing ship, handled well in all wind and sea conditions, and weathered a major storm in the Labrador Sea with little difficulty. A thousand years earlier, similar ships allowed the Norse to explore and colonize the North Atlantic islands and for several centuries carried the trade that was essential to the early European settlements in Greenland.

tury, the isolated groups of Viking raiders gradually developed into Norse armies, who seized and occupied large areas of Western Europe. In the east, Norse adventurers settled the river valleys of Russia, exploring and trading as far as the Black Sea and Constantinople. But by the late ninth century, events had begun to go badly for the Norse: there were military defeats in Europe, while at home King Harald Fairhair was suppressing the powers of individual Norse chiefs in an attempt to unify Norway.

For many of these chiefs, the best solution to their problems lay in leaving home in order to seek land elsewhere. During the ninth century, the most attractive land lay in the almost uninhabited islands of the North Atlantic. For decades the Norse had occupied the Celtic portions of the British Isles, living and intermarrying with the local people. Here they must have learned of the islands discovered by Irish monks, who for centuries had taken to the sea in their skin-covered curraghs, seeking solitude and the absence of temptation, far from the haunts of men. As noted in the previous chapter, such monks had established small monastic communities on the Shetlands, Orkneys and Faeroes, and by A.D. 800 were occupying Iceland, at least during the summer months. Their isolation would not last long, as Norse settlers followed in their path. When the Norse reached Iceland about A.D. 860, they recounted that they had displaced prior occupants of the country, who left behind religious books and other objects showing them to have been Irish.

This eleventh-century carving in antler, representing the head of a warrior, is only 5 cm high.

At L'Anse aux Meadows, on the northern tip of Newfoundland, lies evidence of an early attempt to establish a European colony in America. This scene depicts the arrival of Norse settlers at the site: the colonists are sheltered in tents, while the men cut turf for the construction of permanent houses.

During the "settlement period" of Iceland, between about A.D. 870 and 930, immigrants flocked to the island, which had an estimated population of 30,000 people by the end of the period. All useful land had been taken, and adventurers or fighters who could no longer get along with their neighbours began to look elsewhere. Eirik the Red's exploration of Greenland about A.D. 980 arose from such circumstances. The immigrants who followed him to establish colonies on the southwestern coast of Greenland soon swelled the population to an estimated 3,000 people.

Canada Discovered

For the next four centuries ships from Greenland, Iceland and northern Europe plied the North Atlantic, bringing immigrants, taking people on visits to the Old Country and, most importantly, pursuing the trade upon which the Greenland colonies depended for a livelihood. The Greenland settlements were only 800 kilometres from the Labrador coast of North America, and less then 500 kilometres, little more than two days' sailing, from Baffin Island. The

Norse were excellent seamen, with ships capable of extended ocean voyages; yet they had only the most primitive methods of navigation. Often their ships could survive storms only by running before them for days. Contemporary accounts tell many stories of ships being storm-driven far from their intended course. In such a situation, it was inevitable that North America would be discovered by ships travelling between Greenland and Europe.

This is exactly what happened, probably within a year or so of the founding of the Greenland settlements. According to the Icelandic saga accounts, the first sighting was by a skipper named Bjarni Herjulfsson, on his first voyage from Iceland to visit his family in Greenland. His ship was blown far to the south, where he sighted a forested coast that he knew could not be Greenland; sailing northward, he came to a barren mountainous land, and turning from this land he eventually reached his destination, where he was berated for not having landed in the new countries. Bjarni's discoveries were followed up a few years later, probably around A.D. 1000, by Leif Eiriksson, who visited and named three countries: Helluland, a rocky and barren land which can probably be identified as Baffin Island; Markland, a low forested coast which was almost certainly Labrador; and Vinland, where there was good grazing and timber, and where Leif even claimed to have found the grapes for which he named the country. After wintering and doing some exploring, Leif and his crew loaded a cargo of grapes and timber and sailed for Greenland.

Vinland

The sagas report that Leif's account of his journey led to four voyages to Vinland over the next decade. The first expedition, led by Leif's brother Thorvald, passed at least two winters in the houses that Leif had built, and explored the neighbouring coasts before Thorvald was killed by an arrow during a skirmish with the natives of Markland. The next year another brother, Thorstein Eiriksson, set out to recover his brother's body, but he was storm-tossed throughout the summer and never sighted land.

The next expedition was the largest, and was led by an Icelander named Thorfinn Karlsefni, who intended to colonize Vinland, and whose son Snorri was the first European child born in the New World. During their three years in Vinland, Karlsefni's people explored further, and traded with the natives for furs. Eventually, however, relations with the natives became hostile. There were two battles, and probably as a result of this opposition the Norse abandoned their colony and sailed home. The final expedition, led by Eirik's daughter Freydis and two Icelandic brothers, ended in feuding and murder during the first winter. With this expedition the decade of Vinland exploration seems to have ended; the Sagas mention no further voyages to Vinland.

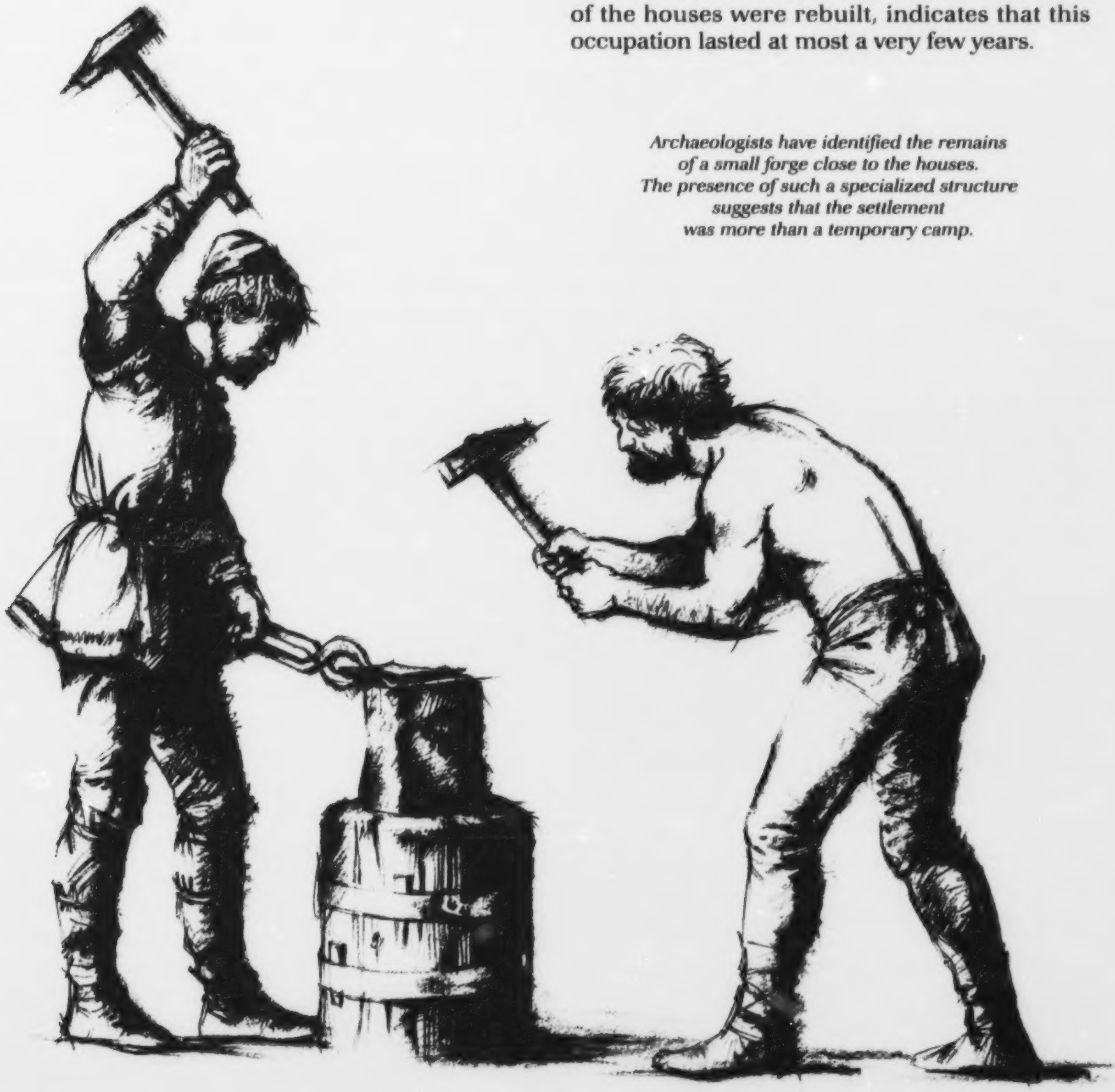
There has been much argument over the location of Vinland, with scholars and local enthusiasts placing it anywhere between Labrador and Florida, and even in the area of the Great Lakes or the Mississippi Valley. The geographical descriptions in the sagas are simply too vague to allow certain placement on a modern map, but there is a growing concensus that they best fit the area of Newfoundland. The main problem with a Newfoundland location is the absence of wild grapes. There is, however, a strong suspicion that what Leif found were actually berries, and that he followed the practice of his father, the man who named Greenland, in "giving a land a good name so that men would want to go there." An alternative explanation proposes that the Old Norse word "vin" refers to grassland, and that Leif really named the land for its pastures, not its vines.

A Newfoundland location for Vinland is supported by the Sigurdur Stefansson map, a late sixteenth-century Icelandic chart that seems to have been copied from an earlier document. This map shows Greenland, Helluland, Markland and the *Promontorium Winlandia*. The latter feature is unmistakably similar to the Great Northern Peninsula of Newfoundland in shape, in latitude relative to the British Isles, and in distance and direction from Greenland.

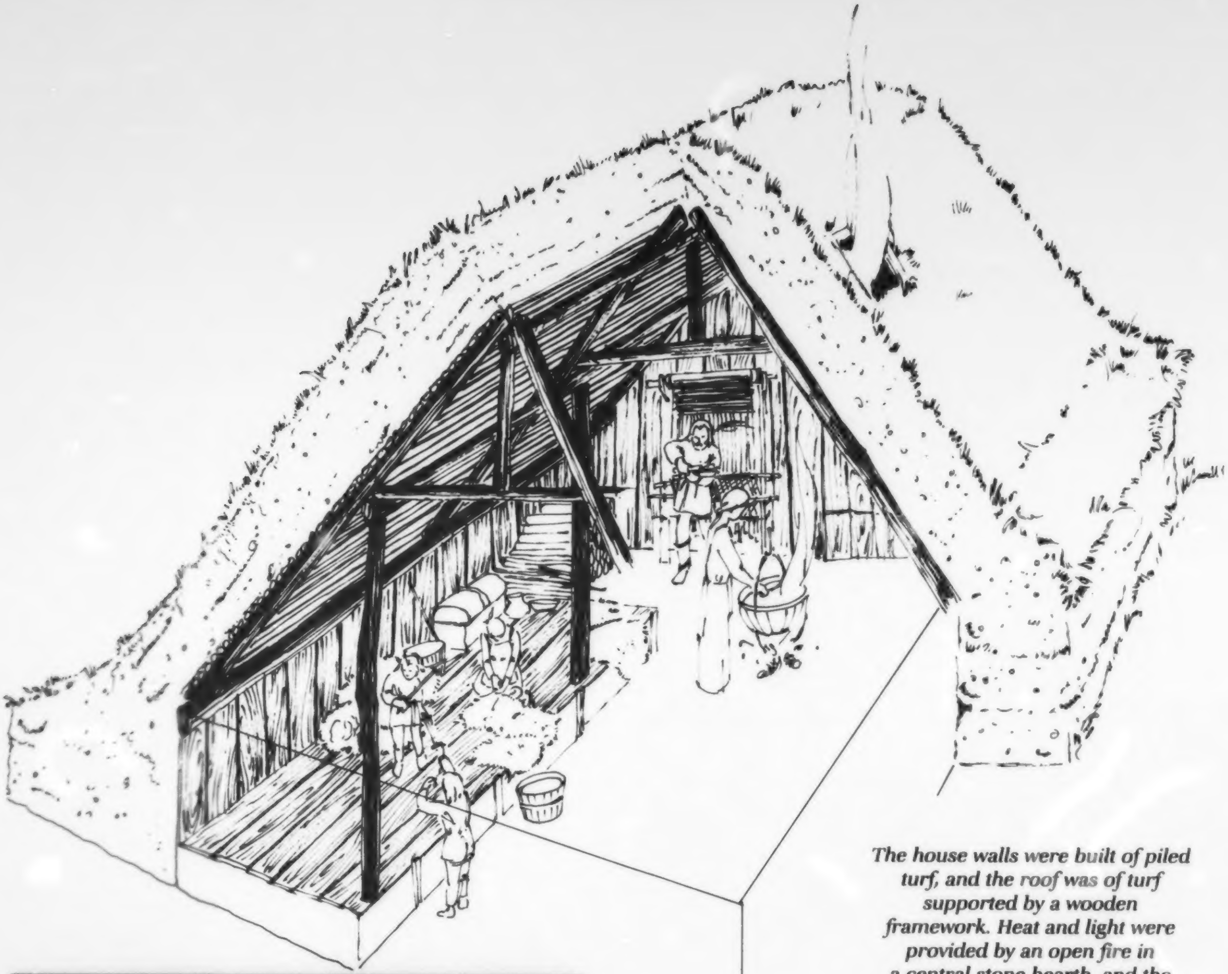
The Site at L'Anse aux Meadows

It was on the northern tip of the Great Northern Peninsula that Helge Ingstad, a Norwegian writer and adventurer, in 1960 found the remains of what appeared to be an ancient European settlement. Near the fishing village of L'Anse aux Meadows, in a grassy meadow facing northward across the Strait of Belle Isle, was a cluster of low mounds. Ingstad recognized them as the remains of walls built of piled turf. Years of excavation at the site, first by Ingstad and his wife Anne Stine, and later by Bengt Schonback and Birgitta Wallace of Parks Canada, have revealed the remains of eight turf-walled structures (the largest 25 metres in length) similar to those built by the Norse in Iceland and Greenland. Three of these are large, multi-roomed dwellings with stone hearths, while the remainder are smaller outbuildings, one of which may have been used as a smithy or forge.

Excavations in the houses and in the surrounding bogs have produced over 130 artifacts associated with the occupation of these houses. Most of the finds are iron nails or rivets, but there is also a soapstone spindle whorl, a stone lamp, a bronze pin and a bone pin, a sewn birch-bark container, the floorboard of a small boat, a carved wooden finial from a piece of furniture, and several other wooden pieces. Radiocarbon dating of this and associated material indicates that the site had been used over several centuries by Indian groups, but that the main occupation of the large houses probably occurred at about the time of the Vinland voyages. The virtual absence of a midden of bone, ashes and other debris, and the fact that none of the houses were rebuilt, indicates that this occupation lasted at most a very few years.



Archaeologists have identified the remains of a small forge close to the houses. The presence of such a specialized structure suggests that the settlement was more than a temporary camp.



The house walls were built of piled turf, and the roof was of turf supported by a wooden framework. Heat and light were provided by an open fire in a central stone hearth, and the smoke escaped through holes in the roof. The occupants slept under coverings of animal skins and furs, on raised platforms built along the walls.

Turf structures on the farm of Glaumbaer, in Iceland. This type of traditional construction was still in use on Icelandic farms until the early part of this century.

In sum, the archaeological evidence indicates that L'Anse aux Meadows was briefly occupied by Europeans several centuries before Columbus' exploration of the New World, and it seems most likely that this occupation was by the Greenlandic Norse. Archaeology cannot prove that this was the Vinland of the Norse sagas — the houses may have been built and occupied by an unrecorded Norse expedition — but it is in the most likely geographical area. One would expect that the archaeological remains left by the brief visits of Leif and Thorvald Eiriksson, Thorfinn Karlsefni, and the murderous Freydis, would look very much like what has been found at L'Anse aux Meadows.

Later Contacts

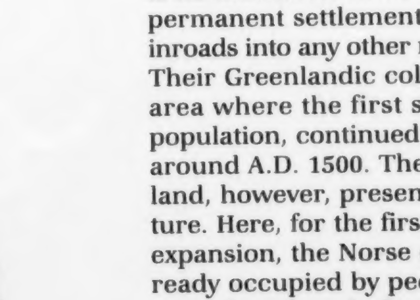
Although the sagas make no further mention of Vinland, there is archaeological evidence, and one historical record, indicating that sporadic trips to eastern Canada continued for at least three centuries after Leif's discovery. The historical record consists of a note in an Icelandic annal, reporting that in 1347 a ship was storm-driven to Iceland while on a voyage from Markland to Greenland. As noted earlier, Markland is almost certainly the forested coast of Labrador, and it seems likely that the Greenlanders, whose only source of timber was driftwood, would have made continued use of this forest resource. They may also have had occasional contacts with the native peoples of the area. At the time of the Norse voyages, northern Labrador was occupied by a people known to archaeologists as Palaeoeskimos. They were a non-Indian population who seem to have come from Siberia about 4,000 years ago, and were the first occupants of Arctic Canada. Contact with the Norse is suggested by a few small pieces of smelted sheet-copper found in the remains of their dwelling sites in the Ungava region of northern Québec.

A more interesting find is a coin excavated from an Indian village site on the coast of Maine, and recently recognized as a Norse penny minted between A.D. 1065 and 1080, during the reign of King Olaf Kyrre. Some of the tools used by the Indians, who occupied the site where the coin was found, were made from a distinctive type of stone that comes from the Ramah Bay region of northern Labrador. In addition, one of the Indian artifacts had been reworked from a very distinctive ground-stone tool of the type used by the Palaeoeskimos of northern Labrador. It seems quite possible that the Norse penny was obtained by the Palaeoeskimos of northern Labrador, who then traded it southward with a consignment of Ramah Bay stone. Wherever the penny first reached native hands, its minting date appears to be proof that voyages to the New World did not cease with the explorations of the Eirikssons and Karlsefnis during the early eleventh century.

Why Didn't the Norse Settle North America?

Despite the evidence for occasional visits to the coasts of what is now eastern Canada, there is no indication that the Norse ever achieved a permanent settlement in the region, or made inroads into any other region of the New World. Their Greenlandic colonies, established in an area where the first settlers found no native population, continued to exist until some time around A.D. 1500. The North American mainland, however, presented a very different picture. Here, for the first time in their westward expansion, the Norse discovered countries already occupied by peoples of whom they had never heard, and who far outnumbered the exploring and colonizing parties which could be carried by the small Norse ships.

The simple disparity in size between the Norse and Indian populations should be proof that the Norse could not have established widespread settlements in the New World. There were very few Norse people in their North Atlantic settlements: only about 30,000 people in Iceland, and probably no more than 3,000 or 4,000 in Greenland at the height of that



This soapstone disk is the weight from a spindle used in spinning yarn from wool. Spinning was a task of Norse women, and the discovery of this spindle whorl at L'Anse aux Meadows is an indication that women were among the party which occupied the settlement.

A Norse settlement has been reconstructed at L'Anse aux Meadows, near the locality where archaeologists found the remains of early European houses. The largest house had five rooms with an attached work-shed, and probably housed several families. The small amount of debris (ashes, animal bones, broken tools) found with the houses suggests that the settlement was occupied for a very short period of time.

colony's existence. Norse ships were relatively small, and it seems unlikely that an exploration or colonization fleet to the New World could have carried more than 100 or 200 people.

At the time of the Norse expansion across the Atlantic, the Valley of Mexico probably had a population larger than any northern European city of the time, and other cities were being built throughout Central America. Towns centered on huge ceremonial mounds were occupied throughout the eastern United States, from the Atlantic coast to the Mississippi and as far north as the Ohio River. The techniques of agriculture had reached as far north as the St. Lawrence Valley, and small towns were beginning to grow among the fields of corn and beans along the Atlantic seaboard. Throughout this region, any self-respecting local chief could have called on enough warriors to make a prudent Norse leader think twice before committing his men to a fight. Even arctic and subarctic regions were inhabited by hunting peoples, fewer in numbers but well-armed with the weapons and skills which they used in their daily hunting. The Indians, like the Norse, were a people who would fight to preserve their traditional rights and usages, and their bows, spears and clubs were as efficient in small-scale skirmishing as were the bows, swords and axes of the Norse.

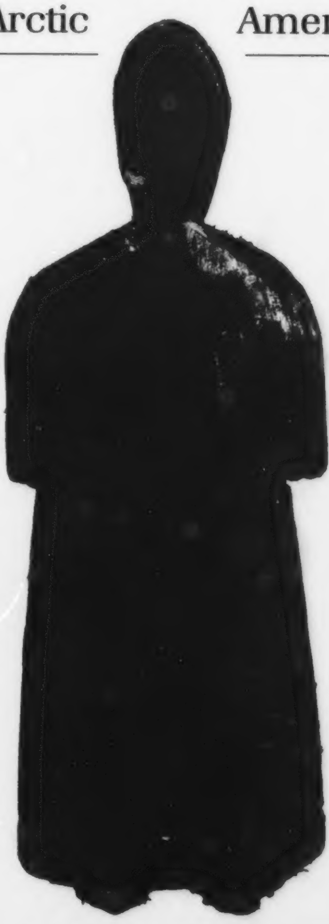
A successful invasion of the New World in Norse times probably would have required gunpowder, a material which seems to have had almost a magical influence on the Caribbean and Mexican peoples of the sixteenth century. It probably also would have required Old World diseases of the types that decimated American populations after A.D. 1500. The Norse populations of Iceland and Greenland, being too small and isolated to carry and spread diseases from Europe, lacked the one great weapon which made later European conquest of the New World possible. Successful colonization probably also required a European king who could encourage settlement by supplying large numbers of ships and people.

Despite the romantic images of Viking warriors cutting their way through Minnesota, or becoming Mexican warlords, or building stone towers in Rhode Island, these were simply not projects which could have been carried out by the fishermen and homesteaders of Norse Greenland. When Thorvald Eirikson met and fought with the Skraelings of Markland, human occupation had for the first time completed its spread around the earth. It was this fact which prevented a continued Norse expansion into the New World. As reported in *The Greenlanders' Saga*, the dying Thorvald Eiriksson drew an arrow from his stomach and remarked "There is fat around my Belly! We have won a fine and fruitful country, but will hardly be allowed to enjoy it." The European invasion of the New World had been delayed by five centuries.

CHAPTER 4

HELLULAND AND GREENLAND

For five hundred years the mediaeval Norse occupied Greenland, and made at least sporadic visits to the northern and eastern coasts of Canada. After the twelfth century A.D., the most important fact of Norse existence in Greenland must have been the presence of the Inuit, with whom they shared Arctic America.



This wooden carving appears to represent a man in European dress with a crucifix on his chest. It is the work of an Inuit artist, and was found in the remains of a thirteenth-century Inuit village on the south coast of Baffin Island. (length 5.4 cm)

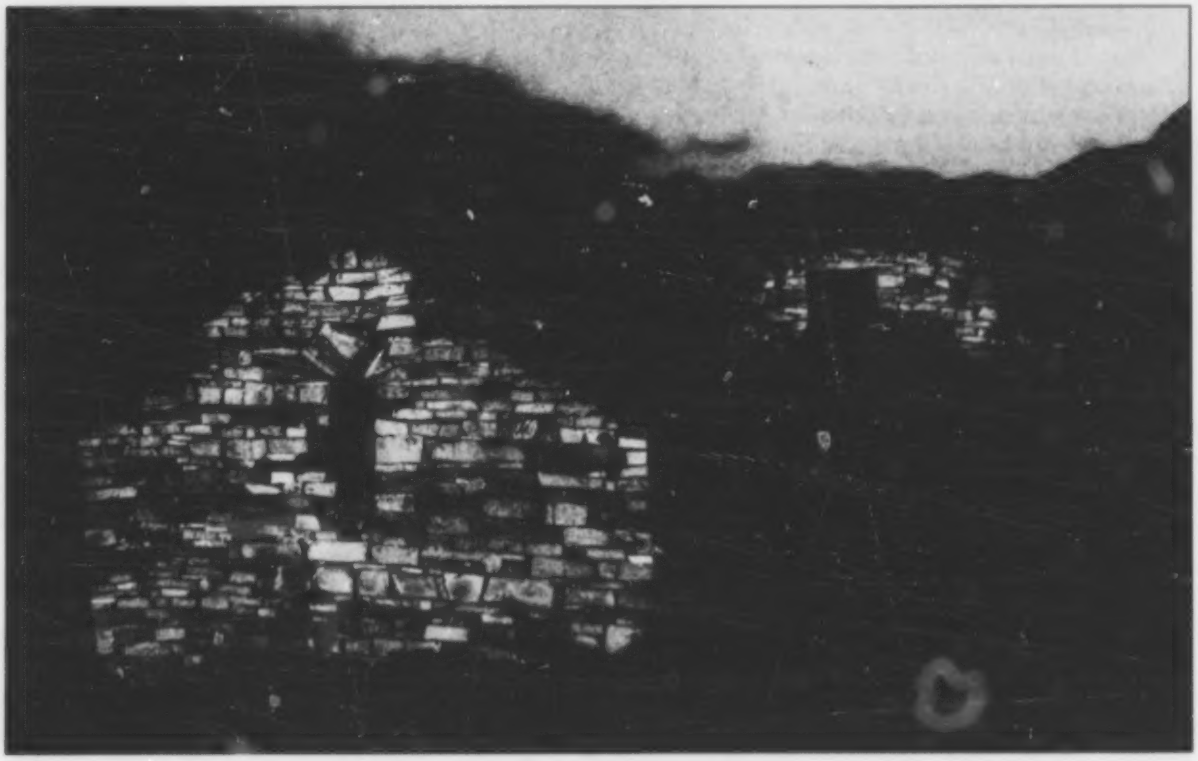
When Eirik the Red explored Greenland, he found remains of earlier occupation, but no living occupants of the newly discovered country. This situation would not last long; for at the same time that Eirik's followers were colonizing southwestern Greenland, the ancestors of the Inuit were pushing eastward from Alaska. The Inuit were an Alaskan people who, on the margins of iron-age Asia, had developed a sophisticated maritime hunting way of life based on the use of skin-covered boats: the single-man kayak, and the large umiak capable of transporting an entire camp or serving as a platform from which to hunt animals as large as whales. The early Inuit were great whalers, and this prey supplied them with enormous stores of meat, and oil for use as fuel.

The early Inuit spread rapidly eastward across the Canadian Arctic, displacing earlier occupants of the area. By as early as the twelfth century A.D., they had crossed from Ellesmere Island to occupy northwestern Greenland, then began to spread southward towards the areas occupied by the Norse. It was inevitable that the two immigrant groups would meet, but there is no historical reference to such contact until 1266, when a report states that a Norse hunting party in the Disko Bay area of western Greenland had found traces of natives. Another source, probably dating from about the same period, states that in the north the hunters had discovered small people whom they called "Skraelings," who had no iron but used stone knives and weapons of walrus ivory. As the Inuit expanded southward down the Greenland coast, they must have come into increasingly frequent contact with the Norse settlers but Norse historical documents are almost silent on the subject of meetings with the Inuit.

Norse Accounts of the Inuit

One account, dating from about A.D. 1350, states that the Western Settlement (the more northerly of the two Norse colonies) had been abandoned and was in the hands of the Skraelings. A second indicates that in about 1418, the Eastern Settlement had been attacked "from the nearby shores of the heathens," and that most of the churches had been burned. The general impression given by the Norse accounts is one of infrequent and hostile contact between the two groups, eventually leading to the destruc-

The remains of the church at Hvalsey, in the Eastern Settlement of Norse Greenland. This thirteenth-century building is the best preserved Norse Greenlandic structure.



Archaeologists found this portion of a bronze balance in an Inuit village on western Ellesmere Island. Such objects were used by Norse traders for weighing coins and other small objects.

tion of the Norse colonies. There is only one brief story which does not tell of hostilities: in 1385 Bjorn Einarsson, named "Jerusalem-farer" because he had made a pilgrimage to the Holy Land, was storm-driven to Greenland, where he rescued a Skraeling boy and girl from a rock in the sea. The children lived with him as faithful servants, and killed themselves when he departed for Iceland two years later.

Archaeological evidence accumulated over the past decade sketches a distinctly different picture, one which suggests that we should perhaps not place too much faith in the historical documents of the period. Many of the early Inuit winter villages that have been excavated in the eastern Arctic have produced fragments of smelted metal, and those excavated by Peter Schledermann in eastern Ellesmere Island yielded pieces of woollen cloth, chain mail, and fragments of coopered barrels or tubs of oak. A portion of a bronze bowl came from a site I excavated on Devon Island. All of this material must have been obtained by the Inuit from the Norse, either through trading or through more hostile contacts. Many of the Inuit villages containing this material appear to date from the twelfth or early thirteenth centuries, suggesting that contact between the groups occurred con-

The Greenlandic Norse maintained sufficient contact with Europe to follow clothing styles. Homespun woollen clothing which has been found in excavations, notably in the cemetery at Herjolfsness, is similar in style to that worn by fourteenth-century Europeans.

This type of hood, with a long ornamental tail, was very popular in Europe. The specimen was excavated from the graveyard at Herjolfsness.

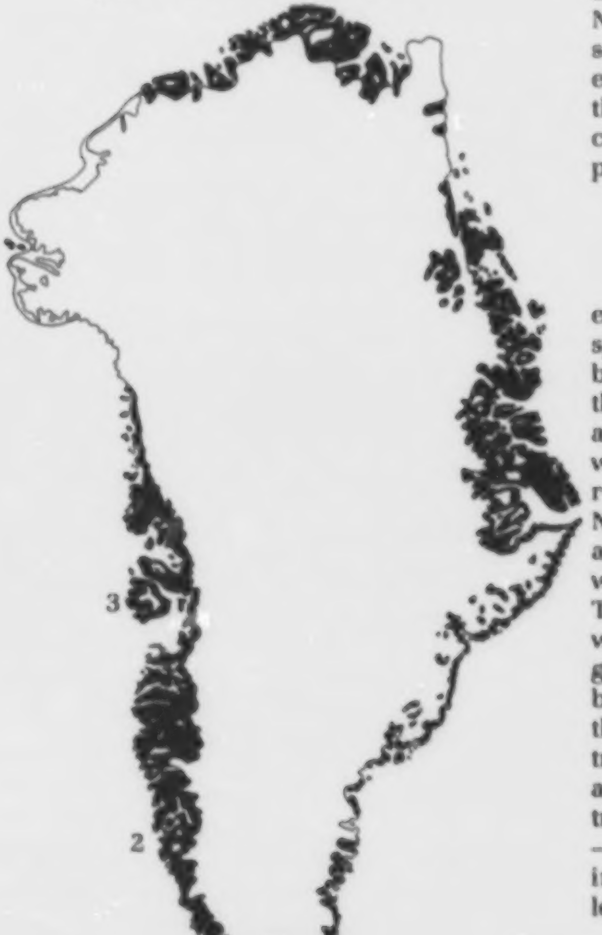
siderably earlier than reported by the Norse. This interpretation is supported by the description of a people who can only be Inuit, in a geographical account written by an Arabic scholar about A.D. 1150.

An Arabic Description of the Inuit?

Al-Idrisi is the respected author of a well-known mediaeval treatise on world geography entitled *Nuzhat al-Mushtaq*. In his description of the North Atlantic Ocean, he states:

> *There are also sea animals of such enormous size that the inhabitants of the inner isles use their bones and vertebrae in place of wood in constructing houses. They also use them for making clubs, darts, lances, knives, seats, ladders, and in general, all things which elsewhere are made from wood.*

The Norse established two colonies on the portion of Greenland's west coast which lay beyond the inland ice-sheet (1 and 2). Their first encounters with Inuit occurred further north on the west coast (3).



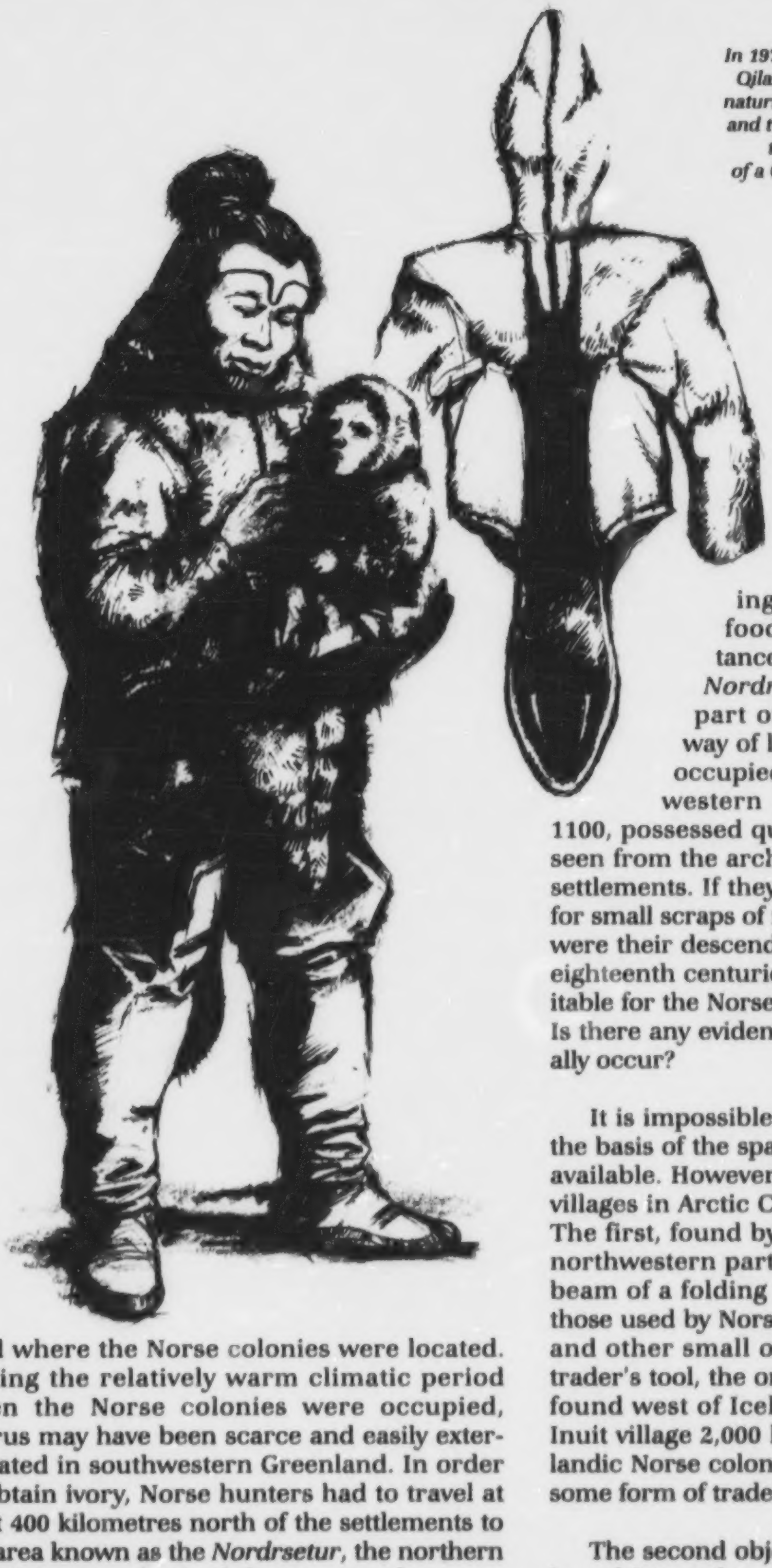
In the year 986, Eirik the Red founded the Norse colony on the southwest coast of Greenland. Within a few years, turf-built farms were scattered along the fiord coasts where the Norse hunted, fished, and raised sheep and cattle. It was from such a farm that the sagas tell of Leif, the son of Eirik, departing to search for Vinland.

If we interpret the large animals as whales, and the "Inner isles" as those deepest in the North Atlantic, this description may well refer to the early Inuit, who used whale bones as frames for their winter houses, as well as for many other artifacts. It is difficult to think of another North Atlantic population of the period who would fit this description. We might speculate that such a description could have reached northern Europe from Greenland, and been transferred to Sicily through the medium of the Norman occupation of the island. If so, this description would tend to confirm archaeological evidence from Arctic Canada, which indicates that contact between Inuit and Norse was occurring at least a century earlier than was reported in Norse historical documents.

Norse Traders?

What would have been the nature of these early and unrecorded contacts? The widespread distribution of smelted iron, copper and bronze on Canadian Arctic Inuit sites suggests that metal, even in small fragments, was a valuable trade commodity to the early Inuit, and was widely distributed through Inuit trade routes. The Vinland sagas indicate that the Norse were willing to trade with the Skraelings, and it seems likely that trade with the Inuit would have been very beneficial to the Norse. The Greenland colonies depended on trade with Europe for many of their requirements — grain, metal, timber, and luxury goods such as bishop's vestments. Furthermore, after 1261 they were required to pay fines and an annual tribute to the Norwegian king, as well as tithes and crusade taxes to the Roman church. This tribute was paid in the products of the country — primarily walrus and narwhal ivory, but also in walrus hides, polar-bear skins and, on at least one occasion, a live polar bear.

Walrus are ice-loving animals, and are no longer found in the subarctic region of Green-



In 1978, a 500-year-old grave was found at Qilakitsoq in Greenland, containing the naturally mummified bodies of six women and two children. The discovery provides the information for this drawing of a Greenlandic Inuit woman and child, dressed in clothing and adorned with facial tattoos in a style that would have been familiar to the Norse Greenlanders.

land where the Norse colonies were located. During the relatively warm climatic period when the Norse colonies were occupied, walrus may have been scarce and easily exterminated in southwestern Greenland. In order to obtain ivory, Norse hunters had to travel at least 400 kilometres north of the settlements to the area known as the *Nordrsetur*, the northern hunting grounds. Such hunts must have put great pressure on the Norse economy, depriving the colonies of manpower needed for farming, fishing and hunting for food. Yet such was the importance of European trade that the *Nordrsetur* hunt was an integral part of the Norse Greenlanders' way of life. The early Inuit who had occupied Arctic Canada and northwestern Greenland by about A.D. 1100, possessed quantities of ivory, as can be seen from the archaeological remains of their settlements. If they were willing to trade ivory for small scraps of metal and worn-out tools, as were their descendants of the seventeenth and eighteenth centuries, it would have been profitable for the Norse to have exploited this trade. Is there any evidence that such trade did actually occur?

It is impossible to answer this question on the basis of the sparse archaeological evidence available. However, two finds from early Inuit villages in Arctic Canada could be significant. The first, found by Patricia Sutherland in the northwestern part of Ellesmere Island, is the beam of a folding bronze balance, similar to those used by Norse traders for weighing coins and other small objects. This characteristic trader's tool, the only one known to have been found west of Iceland, and discovered in an Inuit village 2,000 kilometres from the Greenlandic Norse colonies, hints at the existence of some form of trade between Norse and Inuit.

The second object, found by Deborah Sabo in a thirteenth-century village on the south coast of Baffin Island, suggests the actual presence of Norsemen in Arctic Canada at that time.

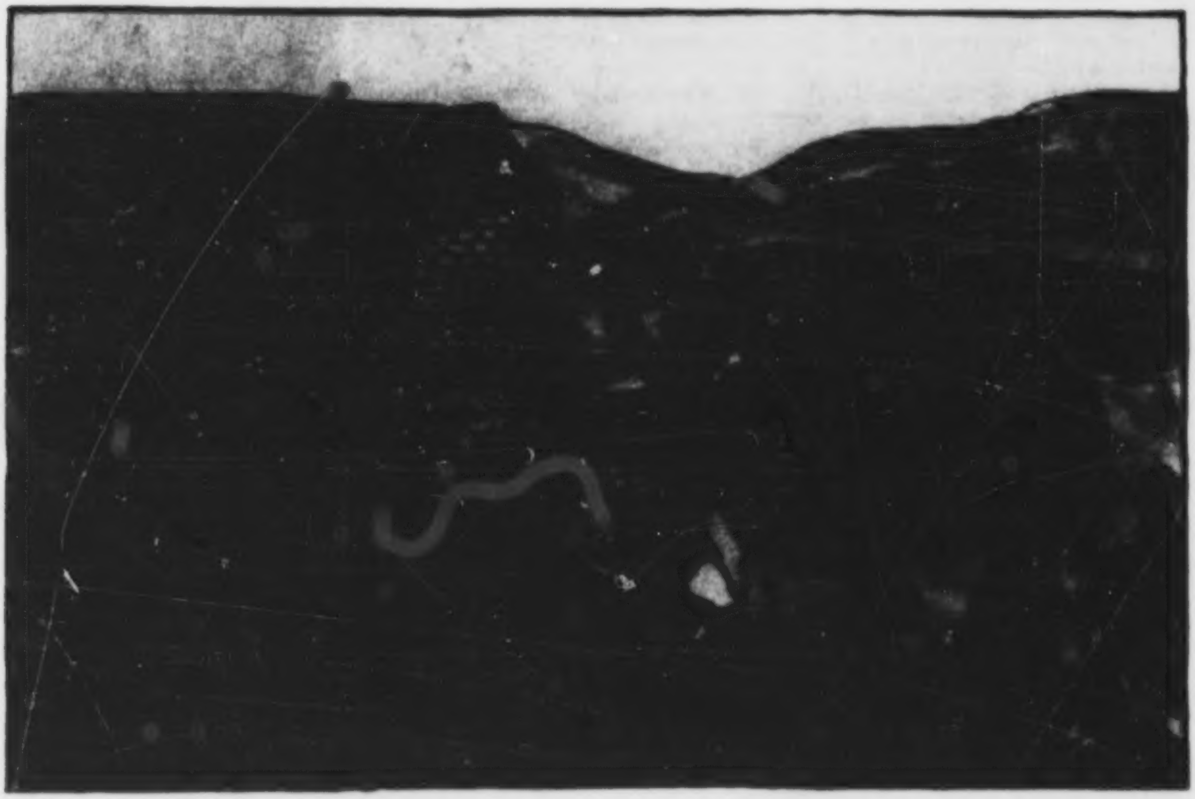
It is a small wooden figurine carved in typically Inuit style, with a flat, featureless face and stumpy arms; it is unusual, however, in showing an individual dressed in a long gown or robe, with what appears to be a cross on the chest. The clothing is consistent with European clothing of the time. Baffin Island Inuit could not have crossed Davis Strait to see Norse Greenlanders dressed in this fashion, and it is very unlikely that the figurine was traded from Greenlandic Inuit, who had a much different tradition in carving figurines representing Europeans. The Baffin Island figurine seems most likely to have been made locally by someone who had seen a Norse Greenlander, perhaps on Baffin Island or in Labrador.

Baffin Island, the Helluland of the sagas, was known to the Norse, and the Norse may have coasted it for some 300 years on their voyages to the forests of Markland. It seems likely that at least occasional landings were made, and that there was contact with the Inuit occupants of the region. From such contacts, a sporadic and opportunistic trading relationship may have been established, one that may have served as the basis for a relationship between the Norse Greenlanders and the Inuit who eventually moved into southwestern Greenland.

Norse-Inuit Relations in Greenland

Relations between Norse and Inuit in Greenland must have been considerably more intense than with the peoples encountered during voyages along the fringes of Arctic Canada, and more intense and complex than suggested by the rare Norse historical records which mention contact with Inuit. Recent archaeological work has shown that the Inuit had advanced down the coast of western Greenland considerably earlier than had been generally thought. Radiocarbon dates now suggest that the Inuit had settled the Disko Bay area as early as the thirteenth century, well before the Norse accounts first mention encounters with Skraelings in the north. By the next century, Inuit had occupied the outer coastal regions of southwestern Greenland, while Norse farms lined the shores of interior fiords. For the following one or two centuries substantial populations of

This watercolour was painted by the nineteenth-century Greenlandic artist Aaron of Kangeq. It illustrates an Inuit legend telling of the first meeting of Inuit with the Norse.



Later Voyagers to Greenland?

The last known visitors to report on the state of the Norse colonies in Greenland were the crew of an Icelandic ship that was storm-driven to Greenland in 1406 and stayed for four years. Between that time and the rediscovery of Greenland by the Portuguese around 1500, there is almost a century of silence, during which the Norse colonies disappeared. Yet a few names emerge from vague or casual sixteenth-century references, which hint at fifteenth-century voyages into the far northwestern Atlantic.

Several sources mention a pair of northern mariners named Pining and Pothorst, who are said to have undertaken mysterious business in the northwestern Atlantic during the later fifteenth century. We meet Didrik Pining elsewhere (see "The Newe Found Islande"), as the governor of Iceland who brought a temporary halt to British piracy in that country during the 1480s. Pining and his companion Pothorst were probably either Danish or German, and the pair do not seem to have been above piracy themselves. Several accounts describe them setting up a great "sea-mark" on an island or rock named Hvitsark, located somewhere west of Iceland. This structure is said to have been built either to warn mariners against the local pirates who attacked in small ships without keels (Inuit kayakers?), or as a guide to serve Pining and Pothorst in their own piratical endeavours. Hvitsark ("White Shirt") was probably the Icelandic name for a large glacier on the east coast of Greenland, and the stories seem to derive from the fact that Pining and Pothorst undertook one or more voyages to Greenland during the late fifteenth century. We may assume either that they were engaged in unrecorded trade with Norse Greenland, or that they were raiding the isolated farmsteads of the dying colonies.

A few vague sixteenth-century accounts also make reference to a man named Johannes Scolvus, a Latin version of a name which has been interpreted as referring to a Dane or Norwegian (Jon Scolp), a Swede (Jon Scolvsen), a Welshman (John Lloyd) or a Pole (Jan Kolnus). Scolvus' name is usually associated with the general area of Labrador, Baffin Island and Hudson Strait, and with a voyage which took place in 1476. It is possible, as some scholars have suggested (without supplying anything like proof), that Scolvus may have been linked with the Pining-Pothorst endeavours in the area.

Another name, and another European nation, is also mentioned by sixteenth-century documents purporting to tell of fifteenth-century explorations in the northwest. Some of the maps that mention Johannes Scolvus associate him with a waterway to the west of Greenland labelled the "Strait of the Three Brothers." The three brothers are generally taken to be the brothers Corte-Real — Gaspar, Miguel and Vasqueanes— the Azoreans who made voyages to Greenland, Labrador and Newfoundland about A.D. 1500, and whose name may have been attached to either Davis Strait (between Greenland and Baffin Island) or Hudson Strait (between Baffin Island and Labrador). But by the late 1500s the name Corte-Real also began to be mentioned in connection with an earlier discovery of New World territories. This discovery was said to have been made by the father of the better-known explorers, an Azorean governor named Joao Vaz Corte-Real. A few authors have even linked him with the Pining-Pothorst-Scolvus team, suggesting that all four sailed as an international brigade to explore the New World Arctic.

As discussed elsewhere (see "The Labrador"), it is quite possible that Portuguese or Portuguese-Azoreans did make discoveries in the northwest Atlantic some time before Columbus' voyage. Yet the evidence for such discoveries is vague, and certainly not sufficient to be ascribed to any individual whose name is first mentioned over a century after his reputed voyage. Nevertheless, Joao Vaz Corte-Real is considered by many contemporary Portuguese as the discoverer of the New World. As an Azorean official with interests in exploration, he may well have been in a position to undertake voyages in the northwestern Atlantic. Yet until more precise evidence is unearthed by historians, Joao Vaz Corte-Real must take his place with Pining, Pothorst and Johannes Scolvus, as merely a possible voyager to the New World.

The stories linking all these names with fifteenth-century discoveries in the northwest Atlantic may imply, however, that the apparent break in communication between Europe and Norse Greenland may have been less complete than is generally believed. Although few Icelandic vessels travelled to Greenland in the fifteenth century, their place may have been taken by Danes, Germans, English and Portuguese. These voyagers may have been the authors of the piratical raids on the farms of Norse Greenland that are described in Greenlandic Inuit legends. They also may have been the agency through which European navigators continued to be aware of lands in the distant northwestern Atlantic.

This statue of Gaspar Corte-Real stands in front of the Newfoundland and Labrador legislature in St. John's.

Norse and Inuit lived in this region, and it seems inevitable that they must have worked out some means of sharing the country and its resources. Whatever their relationships, they must have been more complex than the simple animosity referred to in the historical records.

Archaeology has so far been unable to suggest the nature of this set of relationships. One recent find, however, offers an intriguing hint. Recent excavations by Claus Andreason of the Greenland Museum at a Norse farm called Nipaitsoq in the Western Settlement, recovered a number of iron knife blades, made in characteristic Norse form. Among them are blades made not from smelted iron, but from meteoric iron. This material almost certainly came from the iron meteorites of the Cape York District in far northwestern Greenland, a source in the heart of Inuit territory and one that had been used by the Inuit for centuries. Is it possible, then, that there was not only trade between Norse and Inuit, but that this trade was not simply an exchange of European manufactured goods for native raw materials? The Norse Greenlanders must have been chronically short of iron, and the Inuit had access to meteoric iron. In fact, a trade in metal may have passed both ways between the two groups.

Inuit History

Other hints of close and complex relationships between the two cultures comes from the oral history of the Greenlandic Inuit. When the Danish missionary Niels Egede reached Greenland in 1769, he was told stories which indicated that the Inuit and the Norse had traded, and had eventually been on relatively good terms. When the Norse were attacked from the sea, Inuit stories told of the Inuit taking Norse women and children to the inner fiords for their protection. Legends collected by the administrator and folklorist Hinrich Rink in the mid-nineteenth century, while more complete, are suspect in that they came from Inuit who had been in contact with Scandinavians for a century. These legends centre on the story of Ungortok, a chief of the Norsemen. It is a complex tale of violence resulting in the destruction of a Norse farmstead. The various versions, however, include stories of an Inuit girl working as a servant on a Norse farm (a transformation of the more general Inuit story of Navaranak, a girl who is captured by Indians), and of a Norseman and an Inuk who were best friends and who had friendly archery contests. Such relationships must have been at least conceivable to the people who built the story of Ungortok.

Interestingly, an Icelandic version of the Ungortok story, collected a few decades before the Inuit version was collected and published by Rink, has recently been recognized. The Norse chieftain at the centre of this story is named Ingjaldur (whom the Inuit call Ingjalli). Linguists inform me that Ingjaldur, or Ingjalli, can easily be transformed into the Inuttituut name Ungortok (meaning "he who is stubborn"). The Icelandic story also contains two Inuit words, *innuk* and *kayak*, and an Inuit placename, *Nabaitsoq*, which may be identical with the Nipaitsoq mentioned earlier as the Norse farm that produced blades of meteoric iron. Using different placenames, both the Icelandic and Inuit versions place the action at a locality near the head of Ameralik Fiord in the old Western Settlement of the Norse. Considering the low level of communication between Greenland and Iceland from mediaeval times to the nineteenth century, the evidence suggests that we may have here two versions of a shared historical tradition. If this is true, it would lead to a radical reassessment of relationships between the Inuit and Mediaeval Norse in Greenland.

Disappearance of the Greenlandic Norse

When the Norse Greenlandic colonies died out, probably about the time that Cabot, Corte-real and Cartier were re-establishing contact between Europe and the eastern coast of Canada, it was almost certainly not because of attacks by the Inuit, among whom they had lived for several generations. Their decline and eventual disappearance probably resulted more from a deteriorating climate, combined with a rapid decline in the value of their commercial products. With the growth of Hanseatic trade in the east and Portuguese exploration in Africa, furs and ivory began to reach Europe from other sources, and the Greenlandic trade lost much of its historic value. Greenlandic life must have stayed relatively constant, while Europe was undergoing the immense social changes required to take it from feudalism to mercantile capitalism.

Abandoned by their Norse king and their Roman church, neither of whom any longer bothered to send ships to Greenland, and increasingly harassed by European pirates, the

Norse colonies were more likely the victims of economic forces than of native attacks. It was a sad end to a heroic venture that had begun with the European discovery of North America.

Greenlandic Inuit posed in their kayaks for this photograph, taken around 1900.

The Vinland Map

A map discovered in the 1950s appears to show eastern Canada as it may have been known to Europe half a century before the voyage of Columbus. If genuine, it suggests that Canada may have been part of European geographical knowledge long before the Age of Exploration. Is this map the key to a geographical tradition linking the late fifteenth-century explorations of Columbus, Cabot and Corte-Real to mediaeval European knowledge of Canada?

The library of Yale University owns a map which may be a key to understanding early European exploration across the Atlantic. The map was supposedly drawn around A.D. 1440, fifty years before Christopher Columbus' voyages to the New World, yet it shows a land that can be interpreted as the east coast of Canada, from northern Baffin Island to the south coast of Newfoundland. If genuine, this is the earliest known representation of Canada or North America on European maps. More importantly, it also suggests that knowledge of Canada had existed in Europe for the preceding 500 years, and probably influenced the European explorations into the western Atlantic which began in the late fifteenth century.

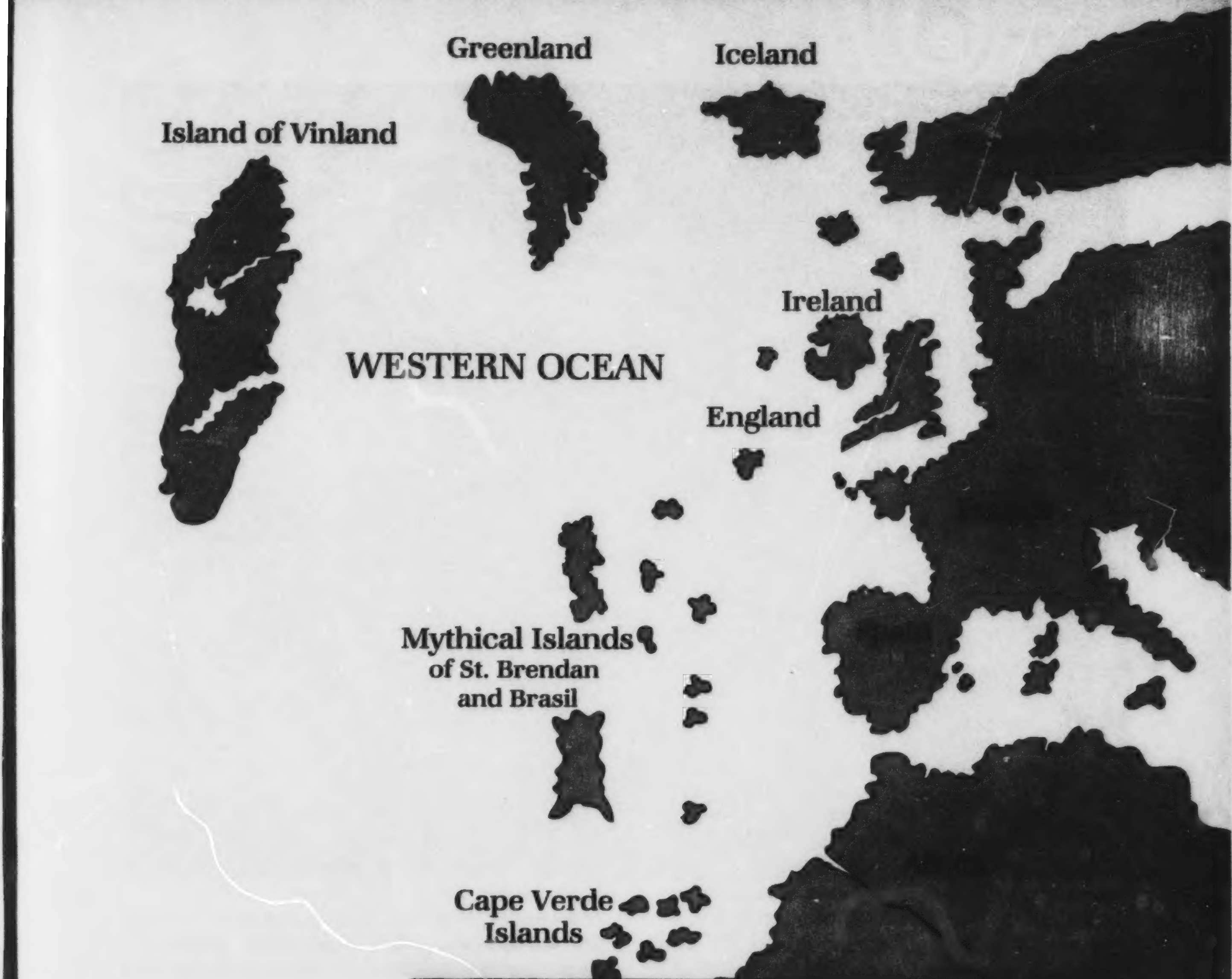
The story of the "Vinland Map," as it has come to be known, provides a fascinating insight into the processes of modern historical scholarship. Yale University chose October 11, 1965, the eve of Columbus Day, to announce that it possessed this strange map. Headlines in the Chicago *Tribune* called it "The Map that Spoiled Columbus Day."

A Strange Map

The map had been given to Yale seven years earlier by an anonymous donor who had purchased it, almost certainly at the instigation of the Yale Library, from an American book dealer. He, in turn, had bought it from a European dealer, who claimed not to be at liberty to reveal the source from which it had been obtained. Because of its scholarly importance and its shadowy pedigree, the map was subjected to intense study. When purchased, it had been bound into a large manuscript volume called *The Tartar Relation*, a record of an expedition sent by the Pope in A.D. 1245-47, to negotiate with and spy upon the Khan of the Mongols, the Pope's chief rival for control of Eastern Europe. Records of this expedition were well known from other sources, but the *Tartar Relation* added much new information.

The map had apparently been drawn in order to illustrate the *Tartar Relation*, and its representation of the Old World was consistent with other known European maps of the period. It also shared with contemporaneous European maps a penchant for placing islands in the Atlantic Ocean —islands such as "Brasil" and St. Brendan's Isle, which we now know to be non-existent. It differed from other maps, however, in including two large named islands in the western Atlantic. The more northerly, labelled *Gronelada*, is immediately recognizeable as Greenland. This caused grave suspicions among the scholars who studied the map: although Greenland was known to European geographers of the period, it was never depicted as an island, but as a peninsula descending from a large polar continent which extended westward from northern Norway. This map showed Greenland not only as an island, but as an island with an outline closely resembling the one that appears on modern maps.

The second configuration, lying to the south and west of Greenland, shows another large island roughly semi-circular in form. Its west-



The notorious Vinland Map, on which the coast of eastern Canada may have been drawn half a century before Columbus' voyage. Its discovery in the 1950s provoked a lively controversy among historians regarding its authenticity.

ern boundary is very vague; but the east coast is marked by two deep inlets. A label identifies this island as *Vinilanda Insula* (Island of Vinland). This caused the scholars even greater concern. Although Vinland, the land discovered by the medieval Greenlandic Norse around A.D. 1000, was generally considered to be eastern North America, and although its name appears in European geographies from the eleventh century and later, it had never appeared on a map dating from the period before Columbus' voyages.

The Map is Tested

Knowing that the map might represent a major advance in knowledge of mediaeval European geography, but aware too that they would be judged extremely gullible should the map prove to be a forgery, the Yale scholars set to work to authenticate their find. First, they satisfied themselves that the *Tartar Relation* manuscript was a genuine early fifteenth-century document. This was accomplished fairly easily, and most critics do not doubt its authenticity. Then they compared the Old World portions of the Vinland Map with other known maps of the period, and were satisfied that its style fitted the period from which it was purported to come the only unexpected elements: were the Greenland and Vinland configurations and their accompanying notes. The scholars analyzed the handwriting of both the *Tartar Relation* and the Vinland Map. Both appeared to be in the same hand and in a style characteristic of the Upper Rhineland during the early fifteenth century. Next, they checked the watermarks of the paper on which the *Tartar Relation* was written: it came from a small paper-mill in southern Germany or Switzerland, and also dated to the early fifteenth century.

The map itself, however, was drawn on parchment, a writing material made from animal skin, which of course lacks watermarks and could not be so easily dated. There was, though, one simple way to check whether the questionable Map and the apparently genuine *Tartar Relation* belonged together. Both documents contained several tiny holes made by book-worms which, at some point in its history, had tunnelled through the volume. Unfortunately, the worm holes in the map did not align with those in the *Tartar Relation* manuscript, suggesting that the two documents had been bound together only recently, and casting further doubt on the map's authenticity.

Then something very curious happened. Yale had first been approached by the American bookdealer who owned the volume containing the Vinland Map and *Tartar Relation* in 1957. In 1958, one of the Yale scholars who had shown polite interest in the volume happened to look through an English book-dealer's catalogue, where he saw a copy of a fairly common late-mediaeval manuscript, the *Speculum Historiale* written by Vincent de Beauvais, selling for a low price. He ordered it for his own collection, and when it arrived he lent it to the book dealer who had approached him earlier. That evening, the scholar received a telephone call from the dealer, who had compared the Beauvais manuscript with the *Tartar Relation*: the handwriting was the same, the paper was the same, and when the Speculum volume was placed between the Map and the *Relation*, the wormholes all aligned! It seemed that all three manuscripts had originally been bound together for a long time, and had been separated only recently. The supposition was that both volumes came onto the market at about the same time, from the same private library, where they had become separated at some time during the past century when the original bindings had worn out and new ones had been added to the Map and the *Relation*. The original bindings remained with the *Speculum* manuscript, and were in a style consistent with the handwriting and the paper of the *Tartar Relation*: from southern Germany or Switzerland in the fifteenth century.

Thus, after an apparently amazing coincidence and several years of study, the Yale scholars finally concluded that the Vinland Map was a genuine fifteenth-century depiction of the world, which also showed a portion of North America. They even suggested that it may have been drawn at the Council of Basel (A.D. 1431-49), an important church event that had attracted scholars from all over Europe and could have served as a centre for the exchange of geographical and historical knowledge.

Not everyone was convinced by the Yale scholarship. The critics, who continued to suggest that the map was most probably a recent forgery inserted into an old manuscript, were especially suspicious of the representation of Greenland. The true outline of Greenland was

Martin Beheim constructed his globe in Germany in 1492, the year of Columbus' first voyage (pictured here is a facsimile made in 1847). It illustrates a view of the world which convinced Columbus of the feasibility of reaching the Indies by sailing westwards from Europe. On his way to the Orient, Columbus hoped to find two landfalls: first, the mythical island of Antillia (near the sailing ship in the centre of the picture), and then Cipangu (Japan).

not known to European scholarship before the early twentieth century, and this supposedly fifteenth-century representation was simply too accurate. Others were troubled by the Latin used in the legends on the map. Scientists at the British Museum briefly examined the map in 1967, and while their results were not conclusive, there were indications that the parchment on which the map was drawn might have been chemically treated, perhaps in order to remove an older document and substitute a recently-drawn map. The Vinland Map remained in a sort of scholarly limbo for over a decade. Its authenticity was simply not certain enough to prove that Europe had geographical knowledge of North America half a century before the voyages of Columbus.

A Forgery!

The final blow came in 1974, when a Chicago laboratory specializing in the chemical analysis of very small samples was allowed to remove several tiny scraps of ink from the map, and subject them to chemical and microscopic tests. These showed that the ink contained 30 percent of a form of titanium dioxide, a major constituent of twentieth-century white paints and products such as the white erasing fluid used by typists, which had not been available before about 1920. It was suggested that a forger had used titanium-based paint to artificially age the lines he had drawn in a strong black modern ink. Critics of the Vinland Map were triumphant, while its supporters were chastened by the demonstration that fine schol-

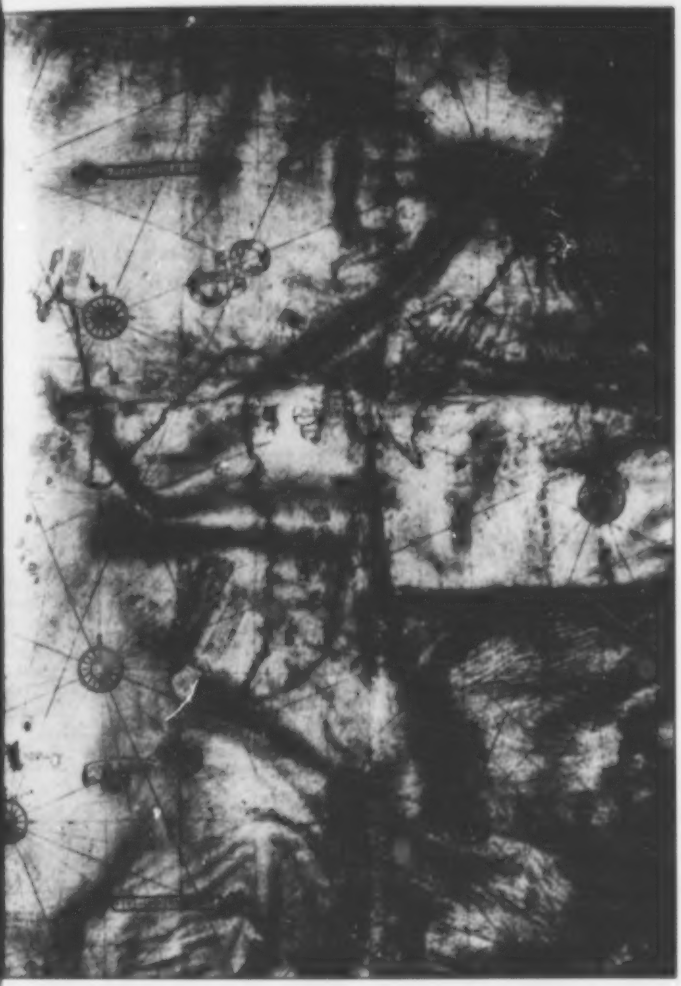
A map drawn about 1502 by the Genoese cartographer Nicolo de Caverio. The semicircular island covered with tall trees represents the Newfoundland and Labrador coasts explored by the Portuguese Gaspar Corte-Real. The shape of this configuration resembles that of Vinland on the Vinland Map.

ars could be duped by a clever forger. Through a series of vague inferences, the forgery began to be attributed to an obscure Yugoslavian church scholar, an enthusiast of mediaeval missionaries, who would have had access to the necessary knowledge and materials before his death in 1924.

Little was heard of the Vinland Map over the next decade. Most scholars who referred to it did so only to remark it as an obvious fraud. Yet some people continued to be troubled by two questions, both essentially psychological in nature. First, the alleged forger must have gone to great trouble to find an ancient parchment which could be associated by worm-holes with genuine fifteenth-century documents, and he had been extremely careful to match the handwriting and contents of the map with the associated documents. Would such a forger then have used a patently twentieth-century ink when a perfectly good mediaeval ink could have been easily made at home from such ingredients as acorns and soot? Second, why would a twentieth-century forger of such a map draw a modern likeness of Greenland? Surely this would be a certain give away. Any competent forger would represent Greenland either as a vague blob in the northwestern Atlantic, or as a peninsula depending from a polar continent, as it was shown on other fifteenth-century maps.

Vindication: 1986

In early 1986, the fortunes of the Vinland Map changed once again. Physicists at the



University of California had developed non-destructive techniques for studying the chemical characteristics of ancient documents. Sub-atomic particles, accelerated to immense speeds in a cyclotron, were aimed at a document in their path, and the resulting scatter of X-rays was measured in order to determine the number and amounts of chemicals in ancient paper and ink. The physicists had already tested the Dead Sea Scrolls and other documents, and were confident that their techniques gave accurate readings. This was much more sophisticated than the earlier Chicago tests on the ink of the Vinland Map. The only tests then available had required the destruction of the objects tested, so they had been based on tiny samples of ink, with the results extrapolated to the entire map. The accelerator tests were non-destructive, gave more accurate readings, and could be applied to the entire document. The California physicists declared that they had found only trace amounts of titanium in the ink of the map, and that both ink and parchment were entirely characteristic of a fifteenth-century document. Suddenly, the Vinland Map was respectable again.

Significance of the Map

If the Vinland Map does prove to be a genuine fifteenth-century document, how can we explain its Greenland and Vinland configurations? The manner in which Greenland is represented is perhaps not as surprising as was thought when the map first came to light. The Greenland configuration is much less accurate than it first appears: the island is far too small in relation to the remainder of the map, and its north coast much further south than it should be. The coast has many apparently random indentations which cannot be matched with known bays and fiords. Only three features obviously coincide with modern maps: Greenland is represented as an island; the southern tip of the island is tapered in shape; and a long, straight section of the northwestern coast appears to represent Melville Bay.

During the early years of Norse settlement in Greenland, the climate was somewhat warmer than at present, and the amount of sea ice was probably considerably less than normal twentieth-century conditions. The standard sailing route from Iceland took ships directly west to a point on the East Greenland coast, then south to round Cape Farewell and north along the west coast to the settlements. Approximately the southern quarter of the east coast of Greenland was therefore well known, and it was probably assumed that the east and west coasts converged and met at Cape Farewell to form a tapered configuration. Archaeological finds reveal that Norse hunting expeditions penetrated as far north as the present Upernavik District, well over halfway up the western coast of the island and at the southern edge of Melville Bay; the straight and glaciered coast to the north was, therefore, probably within the geographical knowledge of the Norse.

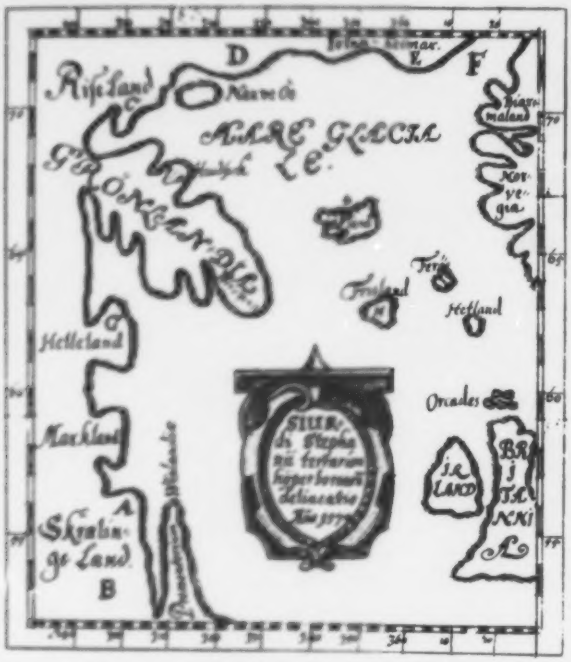
But could the Norse have known that Greenland was an island? In the 1960s, when the map was first studied, it was generally thought that the Greenlandic Norse had had few if any contacts with the Inuit who arrived in Greenland at about the same time, and that such contacts would have been limited to hostilities. It has since become apparent that relationships between the two groups must have been considerably more complex, and that they continued over a period of several centuries. The remains of an Inuit umiak, a large skin-covered boat, have been found on the north coast of Greenland, an area of almost permanent sea-ice under present conditions. Radiocarbon dates indicate that the boat had travelled there during the time of the Norse settlements; indeed, parts of the wooden frame of the boat were of oak, almost certainly derived from the Norse. The Inuit had circled Greenland and were in a position to assure the Norse that it was an island. This is essentially all that the Vinland map shows: that Greenland is an island with a convergent southern tip and a straight northwestern coast, where the inland ice-cap abuts directly and very impressively on the iceberg-strewn waters of Melville Bay.

If the Greenland configuration can be explained, what of the island labelled "Vinland," and what does the map tell us about mediaeval European knowledge of Canada? In fact, it tells very little about Greenlandic Norse explorations of the New World that was not already known from the Icelandic sagas and other sources . The two map labels referring to Vinland simply repeat, but are somewhat at variance with, other sources. The shorter one says simply "Island of Vinland, discovered by Bjarni and Leif in company." This appears to be a conflation of two accounts in *The Greenlanders' Saga*, which states that the new lands were first sighted by Bjarni Herjulfsson (about A.D. 986) and later explored by Leif Eiriksson (about A.D. 1000). The longer text repeats the story of Bjarni and Leif, describes Vinland as a fertile country, and states that Bishop Henricus (Eirik) travelled there in A.D. 1117, remained for some time in both summer and winter, and then returned to Greenland and Europe. Icelandic annals report that in the year A.D. 1121, Bishop Eirik Gnupsson voyaged in search of Vinland, but say nothing about his finding it. While the accounts disagree about the year of the bishop's explorations, and whether or not he actually found Vinland and spent time there, both seem equally likely, and there is little to choose between them.

It seems generally agreed that the Vinland configuration on the map does not derive from actual Norse charts. Rather, it is thought that the map probably derives from the same sort of oral traditions we know from the sagas, which the mapmaker interpreted as best he could on parchment. For example, the sagas refer to three New World "lands": Helluland, Markland and Vinland, in order from north to south. The two major inlets on the east coast of the map's Vinland configuration, which divide the coast into three sections, may be simply an arbitrary interpretation of this reference. Yet a comparison of the latitudes of these three sections of the Vinland configuration with those of Greenland and Europe as shown on the Vinland Map, suggests that the mapmaker may have had more precise knowledge than that which we can obtain from a study of the surviving Icelandic accounts and traditions.

Before making such a comparison, two facts should be noted. First, the Vinland configuration on the map is almost as far from Greenland as Greenland is from Europe, indicating that this is not an accurate navigational chart of the northwestern Atlantic; we should remember, however, that in Norse times and until well after the fifteenth century, longitudes could be only vaguely estimated from sailing times and speeds, while latitudes could be easily determined and compared by measuring the altitude of the noon sun or the Pole Star. Secondly, the label *Vinilanda Insula* is placed adjacent to the northern tip of the configuration, and appears to refer to the entire large island, rather than just its southern portion.

The most northerly of the three sections of *Vinilanda Insula* lies between roughly the same latitudes as the west coast of Greenland, from Melville Bay to just north of the southern tip; these latitudes correspond fairly closely to those of Baffin Island, which was probably the barren and mountainous Helluland of the Icelandic sagas. This section of the configuration is separated from the section to the south by a long, narrow channel ending in a large lake; the latitude of this channel is just north of the southern tip of Greenland, at approximately the same latitude as Hudson Strait. The next section spans the distance from about the southern tip of Greenland, south to about the latitude of the south coast of Ireland; this approximates the latitudes of Labrador, which is probably the Markland of the sagas. This area, in turn, is separated from the one to the south by a deep indentation running southwesterly into the land mass, setting off a long peninsular piece of



This map was drawn about 1590 by an Icelandic schoolmaster named Sigurdur Stefansson. At the time, exploration in the western Atlantic was kindling renewed interest in the ancient Norse discoveries. On the left side of the map appear the Norse placenames of North America: Helluland, Markland and the Promontorium Winlandiae.

land reminiscent of the Great Northern Peninsula of Newfoundland; the latitude of the northern tip is approximately equal to that of the south coast of Ireland, the southern coast equal to the northern Bay of Biscay; these are approximately the latitudes of the northern tip and southern coast of Newfoundland.

The peninsular configuration is reminiscent of that on the Sigurder Stefansson map, a late sixteenth-century Icelandic chart which labels a similar configuration the *Promentorium Winlandiae*, and has been used as evidence to assign a Newfoundland location to the Vinland of the sagas. If the Vinland map is genuine, and if the latitudes of the Vinland configuration are actually the product of more than mere guesswork on the part of the mapmaker, then the latitudes of the three sections of coast tend to confirm current identifications of the three "lands" mentioned in the sagas: Helluland with Baffin Island, Markland with Labrador, and Vinland with Newfoundland, the location of the probable mediaeval Norse occupation site at L'Anse aux Meadows. It is perhaps worth mentioning that these identifications were not current in the 1920s, when the suspected forgery of the Vinland Map occurred; at that time, Vinland was generally considered to refer to a region south of the Gulf of St. Lawrence, probably on the Atlantic coast of the United States.

A Fifteenth Century Map of Canada?

If we assume that the Vinland configuration on the map is actually a graphic representation of the east coast of Canada, surviving from the Greenlandic Norse tradition, does it suggest that knowledge of Canada was current in Europe at the time of the late fifteenth-century transatlantic explorations? As sceptics have pointed out, the Vinland Map is unique, and was outside the general European cartographical traditions of the fifteenth century. As far as is known, its Greenland and Vinland configurations were not copied by any other mapmakers prior to the age of exploration. This lack of known similar maps has been taken as evidence that it could not have contributed to European knowledge of the period.

However, something resembling the Vinland configuration does appear on several southern European maps dating from the early 1500s. These maps (the Cantino chart of 1502, the Caverio chart which was probably drawn between 1502 and 1505, and the King chart of 1500-1503) were produced following the explorations of John Cabot in 1497 and the Portuguese sailor Gaspar Corte-Real in 1501. Each shows a semicircular island with a vague western coast and deeply indented eastern coast, lying to the southwest of Greenland. This configuration is variously titled *Terra Cortereal* or *Terra del Rey du Portuguall* (the land of the King of Portugal); it represents Newfoundland and the adjacent coast of Labrador, which were explored by Gaspar Corte-Real. This is the same portion of North America which was explored 500 years earlier by the Greenlandic Norse, and almost certainly the area they knew as Vinland. The island which the Portuguese placed on their maps illustrating these discoveries closely resembles the Vinland configuration on the Vinland Map, supposedly drawn 80 years earlier. This suggests that southern European cartographers may indeed have been familiar with this mapmaking tradition, and that they correctly identified the newly-found *Terra del Rey du Portuguall* with the ancient *Vinilanda Insula*.

Did the European explorers of the 1490s know about Vinland when they set out across the Atlantic? Some scholars have proposed, on the basis of very tenuous evidence, that both Christopher Columbus and John Cabot had made visits to Iceland, where they they may have learned of the land in the west discovered some 500 years earlier. If the Vinland map was actually drawn about 50 years before Columbus' 1492 voyage, and if its knowledge had some currency in southern Europe during the late fifteenth century, Columbus may have learned about Vinland much closer to home. Similar knowledge may explain both John Cabot's apparently unerring westward course from Ireland to the map's Vinland coast in 1497 and contemporaneous voyages to Greenland by Portuguese explorers. Their voyages are possible indications that the knowledge embodied in the Vinland Map may have been available in European seaports during the fifteenth century, a poorly-documented legacy of the first Europeans to explore the western Atlantic half a millennium before.

CHAPTER 5

THE SEARCH FOR ISLANDS

Mediaeval geography portrayed the Atlantic Ocean as a sea sprinkled with islands of more or less fantastic character. A widespread belief in the existence of certain islands hints at a European suspicion that fabulous lands lay far to the west.

Astronomical knowledge was essential to navigators. This sphere, which dates from 1533, is a representation of the celestial vault with the constellations appearing in the forms of gods and animals. In addition to the familiar constellations of the northern hemisphere, it includes the southern constellations which had been recently discovered by Portuguese explorers.

The North Atlantic is renowned for its frequent fogs and storms. Even modern mariners, equipped with reliable charts assuring them that they are far from any land, are liable to see an unknown and probably dangerous coast in a dark cloudbank glimpsed through heavy rain or driving fog. On calm, clear days, a distant bank of fog can easily be mistaken for the loom of land on the horizon.

Early Atlantic mariners coasting the western shores of Europe or making the first offshore passages, were probably far more likely to glimpse such dubious "islands." These were men whose knowledge of their routes was usually limited to their own experience and to the nebulous stories of earlier voyagers. If they did have charts, the mariners knew they were based on the same limited, vague type of knowledge. Uncharted islands were immensely important to such sailors; not only did they hold potential sources of wealth, they were also extremely dangerous hazards to navigation.

Elusive Islands

It is not surprising, therefore, that early sailors populated the Atlantic with large numbers of islands. Some of these islands, such as the Canaries and the Shetlands, were known from early times to be real, stationary and habitable. Others were interpreted as "disappearing islands" which allowed themselves to be sighted only at certain times or under certain conditions; still others were "floating islands," the positions of which constantly changed. Perhaps the largest number of islands were simply elusive; they were thought to have been seen and named at some time in the past, but their locations had been lost to geographical knowledge.

Some of the more elusive Atlantic islands had their origins in ancient religions and mythologies. Followers of the Egyptian cult of Osiris deemed that this god ruled a kingdom located below the western horizon, where believers would join him after death to live a life of ease, in a land of abundant harvests and perpetual spring. During the later periods of Egyptian civilization, the kingdom of Osiris was conceived as a group of western islands which was reached by a magical boat. This concept may have developed into the Greek "Isles of the Blessed," of which we first hear from the poet Hesiod around 800 B.C. Hesiod described these islands as being located somewhere far to the west, and inhabited by a population who lived happily and without toil. These islands later became the *Insulae Fortunatae* (Happy Isles), and belief in their existence continued from the Classical world through the Middle Ages. The Celtic world also had a western land of the dead, from which derived the land of Avalon where King Arthur lay awaiting his return to life.

Other islands had their origin in writings which we know from the historical record: Atlantis, the legendary sunken continent in the western ocean, appears to have been invented by the Greek philosopher Plato during the fourth century B.C. The Irish "Land of Promise of the Saints" was first described in the *Navigatio Sancti Brendani*, which may have originated as early as the sixth century A.D. After the tenth century A.D., Greenland begins to be mentioned in European records, and mediaeval Europeans seem to have been vaguely aware of this remote and isolated western colony of the Old World. The other western lands of the Norse — Helluland, Markland and Vinland — were remembered in Iceland, and perhaps occasionally entered the consciousness of mainland Europe.

Mediaeval Geography

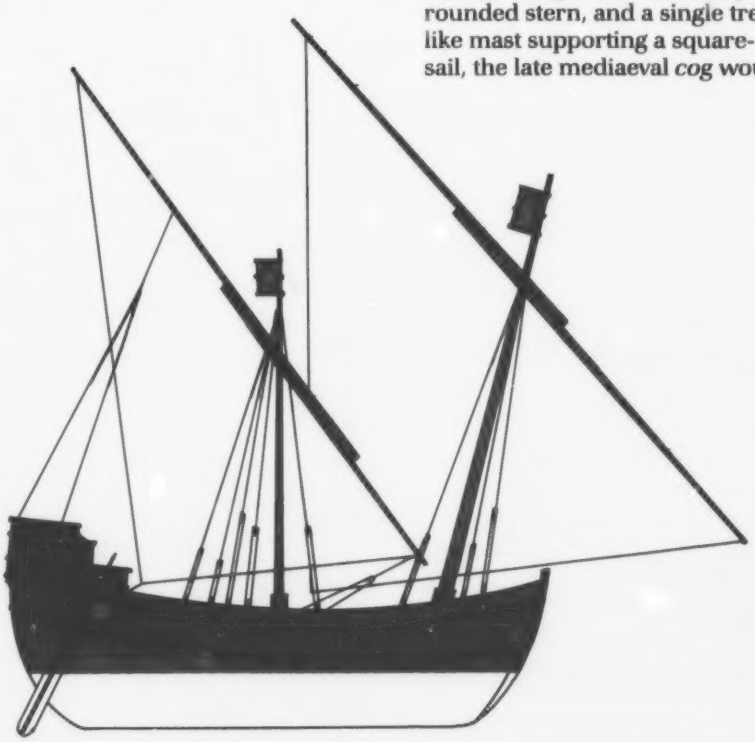
Throughout the Middle Ages, the Atlantic Islands remained as mysterious and elusive as the Land of Prester John, that legendary and unvisited Christian kingdom of the east. Cartography, the drawing of maps, was not a prominent method of recording and transmitting knowledge during these times. Geographical knowledge was transmitted by word of mouth and by written descriptions, and the exact locations of islands or kingdoms was not particularly important to people who expected never to venture far from home. In mediaeval geography, the spiritual or allegorical qualities of distant lands were more important than were their actual locations.

This attitude was beginning to change by the thirteenth century, as the rapidly expanding economy of Europe fostered an increase in coastal navigation and trade. The Crusades had broadened Europe's horizons, as well as developing maritime transportation skills and trade routes throughout the Mediterranean. The establishment of the Mongol Empire from Poland to Korea allowed Oriental goods to be traded to

Ships of the Age of Exploration

The European ships that started probing the far reaches of the Atlantic Ocean during the fifteenth century were very different from the skin-covered Irish curragh which reached Iceland in the eighth century, or the open-hulled Norse knorr which reached eastern Canada in the tenth. The ships of the late fifteenth century were fully decked, which allowed them to shake off the masses of green water which occasionally piled over bow or stern during stormy weather. They had three masts, which not only carried considerably more sail than earlier single-masted ships, but also allowed much of the steering to be done by balancing the sails. At least one mast carried a triangular lateen-rigged sail, allowing ships to tack much more easily, and to sail closer into the wind than did the traditional European square-rig.

The fully-rigged ship was largely developed during the fifteenth century, but was based on late mediaeval ships which were themselves much advanced over the vessels used by the Vikings and their descendants. The most characteristic late mediaeval ship was the *cog*, developed along the coasts of Germany and the Netherlands by about A.D. 1200, and soon the main cargo ship of the Hanseatic League carrying most of the trade of northern Europe. The *cog* is the ship which appears in many late European drawings, tapestries and seals, where it looks either very awkward or very badly drawn: a small ship with an absurdly high and broad hull, and with a single short but massive mast topped by a crow's-nest large enough to hold most of the crew. Although the various representations of the *cog* were consistent, it was difficult to believe that such a clumsy-looking ship actually sailed the mediaeval seas. Then in 1962, the hull of a *cog* was found on the bottom of the River Weser near Bremen, where it had sunk about A.D. 1380. This find confirms that the mediaeval drawings are essentially correct. The hull was 22 metres long, over seven metres wide and over five metres high, with a flat bottom and a curved keel attached to a stem-post which extends upwards at a very steep angle, giving the hull a very blunt and tubby form; the hull was clinker-built in the old Scandinavian manner, of short overlapping planks attached to one another with iron rivets. With a rudder hung from the bluntly rounded stern, and a single tree-like mast supporting a square-sail, the late mediaeval *cog* would



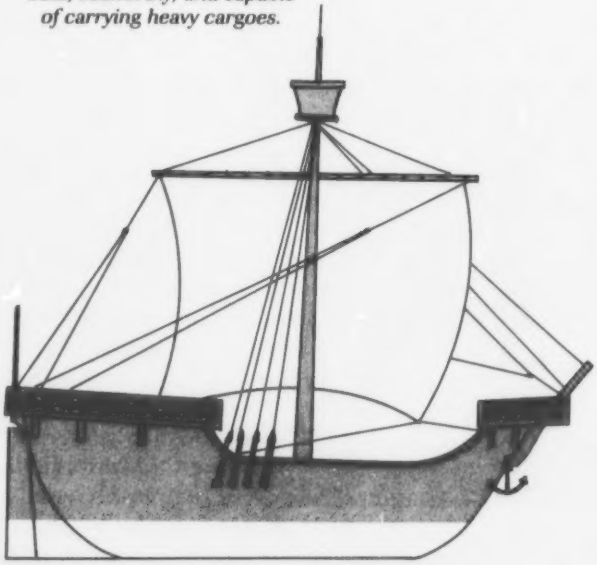
Built for the last crusade in 1286, the Mediterranean nave had two masts and lateen rigging. The stern was rounded, and it was steered by a side-rudder.

have been an awkward-looking but probably quite seaworthy vessel — not particularly fast or agile, but a safe and efficient freighter with a massive cargo-hold.

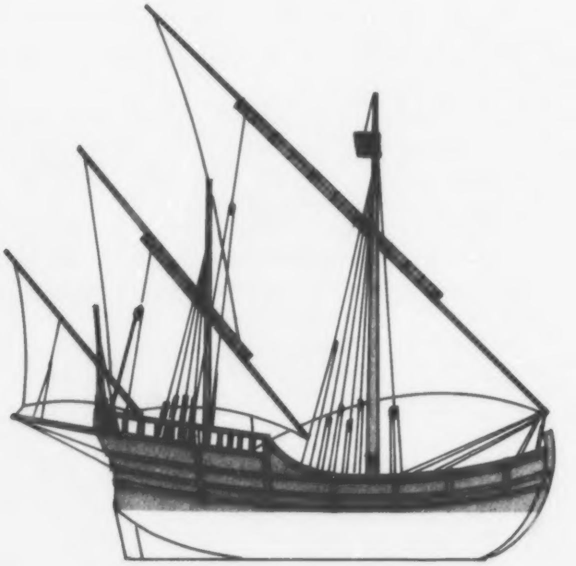
Little is known about the late mediaeval ships of southern Europe and the Mediterranean. Their ancestry extended to the Phoenicean and Roman sailing ships, and the rowing-galleys of the classical world. Their size and configuration is suggested by the 200 ships which the city of Venice supplied to the Fourth Crusade in 1202; these included 60 galleys with sails and oars, and crews of 100 men; large transports with two decks and two masts, some capable of carrying over 1,000 warriors; and special horse transports with side-loading doors into the hull. Mediterranean ships were "carvel-built," with the hull planks butted edge-to-edge rather than overlapping as in northern European shipbuilding, and most of the larger ships appear to have had more than one mast. Most Mediterranean ships had probably adopted the Arabic lateen-rig, which made them more efficient than square-rigged ships in tacking against the wind. These ships were also the first to benefit from navigational instruments and techniques derived from Asia, including the compass, astrolabe, and Arabic knowledge of astronomy and mathematics.

The Portuguese *caravel*, developed during the fifteenth century under the patronage of Prince Henry the Navigator, was the first Atlantic sailing ship to combine all the best features of northern European, Mediterranean and Arabic vessels: it was carvel-built, with a stern rudder, fore and aft castles, and had three masts carrying a mixture of square and lateen sails. The hull was probably broader and deeper than those of Mediterranean ships, which were not built to withstand the waves of the open ocean, and may have been based on the design of the *cog* or other vessels of Europe's Atlantic coast. The *caravel* was very seaworthy, could sail closer to the wind than any other ship of the time, and was the prime reason for the success of fifteenth century Portuguese explorations around the African coast and across the Atlantic at least as far as the Azores.

The three small ships used by Columbus in his 1492 voyage to the Caribbean, John Cabot's *navicula*, and most of the other vessels employed in the early exploration of the New World, were based on the design of the Portuguese *caravel*. These ships were tiny, not only by modern standards, but by the standards of the day. The hull of a sunken wreck found in 1933 near Southampton, England, is identified as the *Grace Dieu* built in 1418; the keel was at least 38 metres long, with an estimated displacement of 1,400 tons. An English naval ship measured in 1430 by a visiting Florentine trader had a deck length of 55 metres, a mast over two metres in diameter, and an estimated displacement of over 1,500 tons, roughly 30 times the size of the ships used by Columbus and Cabot. The ships of discovery were small, not because of the technology of the day, but either because large vessels could not be afforded by the explorers, or because small ships were consid-



The cog was the transport ship of northern Europe during late mediaeval times. Wide and ungainly in appearance, the square-rigged cog was solidly built, seaworthy, and capable of carrying heavy cargoes.

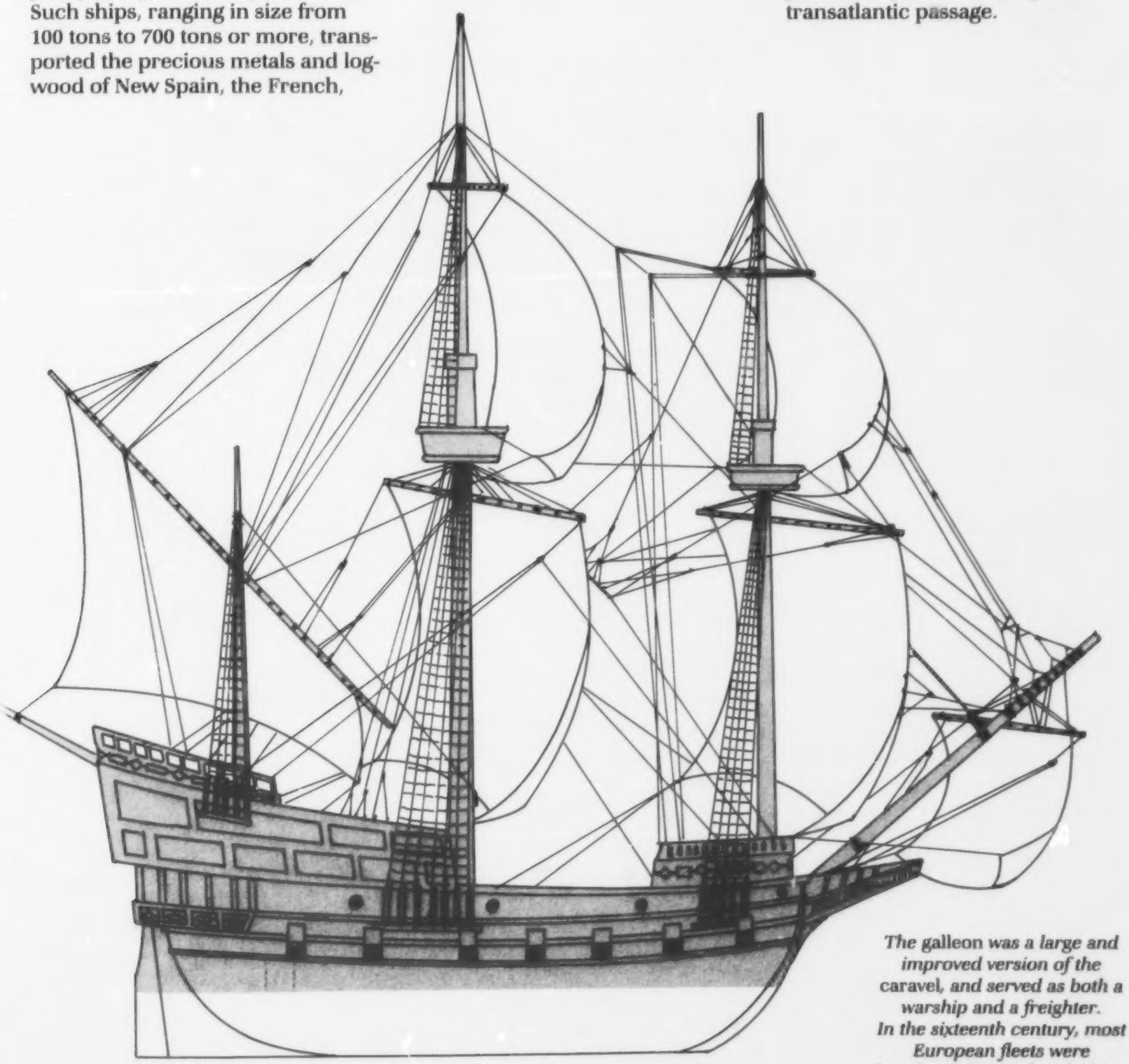


The caravel, developed in Portugal, combined the advantages of the square stern and fixed rudder of northern European ships with the lateen sails of Mediterranean ships.

ered more suitable to the task of exploration. Even in the late sixteenth century, Martin Frobisher's *Gabriel* is estimated at only 20 to 30 tons displacement — smaller even than Columbus' *Nina* or Cabot's *Mathew*.

In Frobisher's time, the working vessel of the New World was the *galleon*, *nao*, *nef* or *ship*, larger and more advanced versions of the caravel, designed for transporting men or cargo, and well-armed with cannons to contend with the rampant piracy and privateering of the time. Such ships, ranging in size from 100 tons to 700 tons or more, transported the precious metals and logwood of New Spain, the French, English and Portuguese fishermen of the New Found Land, and the Basque whalers of the Grand Bay. Large numbers of these ships were commandeered by Spain for the Armada sent against England in 1588, and many New World ships were lost in that enterprise.

By the time of the Armada, most of the changes which transformed the vessels of mediaeval Europe into the fully-rigged sailing ship had occurred. The ships which began to carry colonists to the New World in the early seventeenth century were somewhat smaller than the wooden sailing ships that were still competing against steel and steam in the early part of our own century. But working mariners of the early seventeenth and twentieth centuries would have had little difficulty in finding their way around each other's ships, and in judging their probable speed and safety in a transatlantic passage.



The galleon was a large and improved version of the caravel, and served as both a warship and a freighter. In the sixteenth century, most European fleets were largely made up of such ships.

Europe and encouraged eastern ventures by merchants such as the Polo family of Venice. Europeans were travelling farther and more frequently, and they increasingly needed clear instructions on how to reach one place from another without running onto a dangerous coast or island on the way. Cartographers began to provide these instructions in graphic form. Early mapmakers had very little knowledge to work with, however, and that knowledge was mostly in the form of old writings and more recent travellers' tales. The information available to these cartographers told of an Atlantic Ocean sprinkled with islands of various shapes and sizes, and their maps reflected these ideas.

The fifteenth century saw a rapid increase in the production of maps and nautical charts. It also saw an increased number of Atlantic islands marked on these charts, as well as a certain standardization of the names, shapes and locations of these islands. Islands such as "St. Brendan's," "Brasil," and "Antilia" or "Seven Cities," began to be noted by most European cartographers. "St. Brendan's Isle" had its legendary origin in Dark Age explorations by Irish monks, and was usually placed far to the west of Ireland. The island of "Brasil" or "Hy-Brasil" has a more obscure derivation, probably as an enchanted island in Irish folklore; it appears on many maps drawn after A.D. 1325, usually to the west of Ireland and in association with St. Brendan's Isle. The *Itineraries*, written about 1480 by the Englishman William Worcestre, give sailing directions for "he who wishes to sail to the island of Brasyle," advising him to set his course from the Blasket Islands off the west coast of Ireland.

To the south, the largest Atlantic island was known as "Antilia" or the "Isle of Seven Cities." It usually appears on fifteenth-century maps as a large rectangular island, with or without the place names of its cities. According to legend, it had been discovered and settled by seven bishops who had fled Portugal with their congregations following the eighth century Moorish invasion. Columbus believed in the existence of Antilia, and seems to have looked for it as a convenient staging post on the western route to Asia. He knew of a report that a fifteenth-century Portuguese ship had been storm-driven to this island, had been well received by Portuguese-speaking inhabitants, and had found grains of gold in the sand which they loaded aboard for use in their cook-box. He also seems to have been impressed by the calculations of the Florentine cosmographer Paolo Toscanelli, who stated in 1474 that only 50 degrees of longitude separated Antilia from "Cipangu," the name by which fifteenth-century Europe knew Japan.

A multitude of islands, real and imaginary, dot the Atlantic on this 1467 map drawn by the Italian cartographer Grazioso Benincasa. Among the islands which are still known, such as Sao Jorge in the Azores, Madeira and the Canaries, we find "St. Brendan's Happy Isle" and the famous Isle of Brasil, with a very peculiar shape and a name derived from the Gaelic Tir Breasail, *meaning "Land of the Blessed."*

Discussion about the origin and interpretation of such islands ranges between two poles. On the one hand, there are those who consider all such islands to have been mere cartographical whimsy, designed simply to fill otherwise empty spaces on a map. On the other hand, some scholars insist that these islands represent otherwise unknown European discoveries in the Atlantic, a century or more before the voyages of Columbus and Cabot: St. Brendan's Isle might be Newfoundland, Brasil could be one of the Azores or even Bermuda, while Antilia might be Cuba or another Caribbean Island. The truth probably lies somewhere between these extremes. It seems unlikely that these islands are records of fourteenth or fifteenth-century transatlantic discovery, but they are probably more than mere figments of the late mediaeval European imagination. They may, in fact, be a vague remnant of European knowledge about the western discoveries of the Irish and the Norse.

The Portuguese Search

The search for remote Atlantic islands was led by the Portuguese who, under Prince Henry the Navigator, were the supreme explorers of the fifteenth century. Their search was stimulated by repeated successes at increasingly great distances from the Old World. The Canary Islands, 100 kilometres off the west coast of Africa, had been known since Roman times. They were inhabited by a Berber-like people known as the Guanches and were revisited by the Portuguese during the fourteenth century. The first previously unknown island to be discovered was Madeira, lying 500 kilometres further into the Atlantic. It was discovered shortly

Mythical Discoverers

The idea that the New World was "discovered" in the distant past by peoples from elsewhere has attracted the attention of numerous scholars, many of whom espouse views that might be termed romantic, if not crackpot. Refugees from the mythical continent of Atlantis, hordes of Bronze-Age Scandinavians, wandering Israelite tribes, the lost armies of Alexander the Great, immigrants sent by an early Chinese emperor, even visitors from other planets, have all been advanced as the fabulous "discoverers" of the New World and as the authors of New World civilizations. All these theories share two common elements: they have no basis in historical or archaeological evidence, and they are founded on a racist belief that the aboriginal peoples of the New World could not have developed civilized ways of life without outside help. Such theories do not deserve serious consideration.

Other purported pre-Columbian New World voyages may seem somewhat more plausible, but have obviously been invented merely to augment family honour and national pride, or simply to claim rights for commercial exploitation of a region. One such story tells of the Welsh prince Madoc, who supposedly brought a colony of his people to North America in A.D. 1170 in order to escape civil war at home. There is no historical evidence that Madoc ever existed, much less that he crossed the Atlantic three centuries before Columbus. The tale first surfaced in England during the 1580s, and it probably originated from political motives. The Tudor royal family, which ruled England at the time, must have found the story useful: it helped to glorify their own Welsh heritage, while at the same time clouding Spain's exclusive claim to New World discoveries. Despite its dubious origins and implausible nature, the story of mediaeval Welsh immigrants to the New World is still believed, at least by Welshmen. Three centuries of travellers have reported meeting tribes of Welsh-speaking Indians in various parts of North America. On closer investigation, none of these tribes have been found to speak a language remotely resembling Welsh, nor to possess any other characteristics suggesting that they are the descendants of Madoc.

Another widely-believed tale of early discovery surfaced in Venice, in 1558. In that year, Nicolo Zeno published a map and an accompanying text purporting to have been found in family papers, and telling of explorations undertaken in the late 1300s by Nicolo and Antonio Zeno, in company with a mysterious northerner named Prince Zichmni. The Zeno brothers were said to have travelled extensively in the northwestern Atlantic, discovering large islands with names such as Frisland, Engroneland, Estotiland, and Icaria. The Zeno map was adopted by the Flemish geographer Mercator, and had considerable influence in sixteenth-century exploration. Martin Frobisher carried a copy of Mercator's map on his voyages to Arctic Canada; when he sighted Greenland, he identified it with the Frisland of the Zeno map.

Eventually, the Zeno map and story were recognized to be completely fraudulent, and to have been invented merely to serve family pride. Contemporary Italians pay little attention to the Zenos as the purported discoverers of America, but we may wonder if Italian honour would be so easily satisfied if both Columbus and Cabot were not of Italian origin and training. Scottish honour has not been so easily satisfied: the enigmatic "Zichmni" of the Zeno story has been identified, on the basis of no discernible evidence, with a fourteenth-century Earl of the Orkneys named Prince Henry Sinclair. As St. Brendan serves the Irish and Prince Madoc the Welsh, so Prince Henry Sinclair serves as the Scottish candidate for discoverer of the New World.

before 1420, and its rich soil and warm climate soon attracted Portuguese settlers.

The next western stride was a major one that took Portuguese navigators almost half-way to the New World. This step was undertaken in 1431 by Goncalo Velho, who was sent by Prince Henry in search of the mythical Isle of St. Brendan. Velho did not find the saint's earthly paradise, but he did discover the Formigas rocks, outliers of the mid-Atlantic Azores group, 1,400 kilometres west of Portugal and only 1,900 kilometres from Newfoundland. In 1432, Velho located the first island in the group, and six more Azorean islands were discovered in the following years. The final two, Flores and Corvo, lie out of sight to the west of the main group; they were not found until 1452, when they were sighted by a Portuguese expedition sent to locate the mythical island of Antilia or Seven Cities. Four years later, the Cape Verde Islands 600 kilometres off the coast of Senegal were discovered by another Portuguese expedition. Neither the Cape Verdes nor the Azores contained the renowned seven cities of Antilia, however, and sporadic Portuguese searches for this fabulous island continued through the remainder of the century.

The Portuguese were not the only Europeans to search for Atlantic islands during the latter half of the fifteenth century. As will be seen in the following chapter, the English seem to have carried out several western voyages in an attempt to locate the Island of Brasil. When John Cabot discovered land in the distant west during his 1497 voyage, it was thought by some (and perhaps by Cabot himself) that Brasil had been located.

The Legacy of the Mythical Islands

The search for Brasil, Antilia, St. Brendan's and other mythical islands slackened after the late fifteenth-century discoveries by Columbus, Cabot and their contemporaries. Some of the old familiar island names were transferred to the newly discovered lands in the west. The West Indies, for example, are known in several European languages as "the Antilles," and were named after Antilia. Two sets of Brazil Rocks lie off the southwestern coast of Nova Scotia. The Bonavista Bay community of St. Brendan's may trace its name to an ancient island.

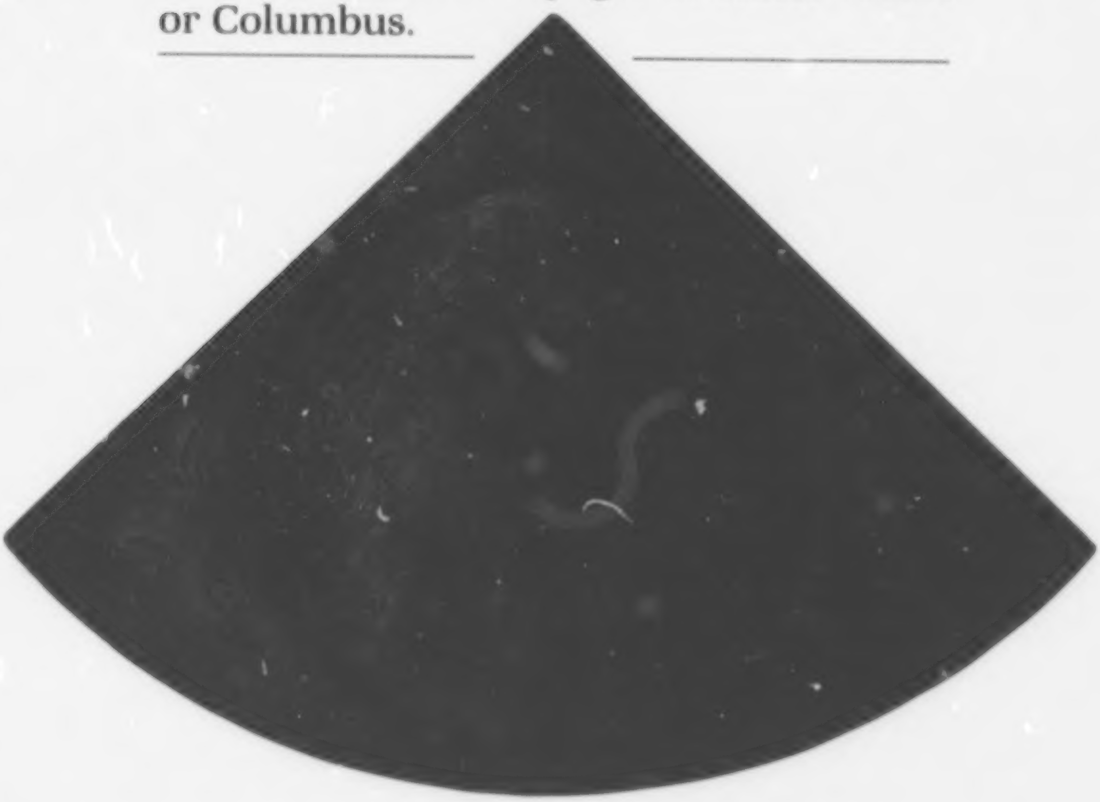
Titled "The Tree of Life in the Blessed Isle," this miniature painted in 1519 illustrates an ancient myth which survived through the Middle Ages, and which placed Paradise in the heart of the Atlantic.

Some navigators and cartographers, however, were not willing to remove these islands from their traditional locations for several centuries after the rediscovery of the New World. This is not surprising, given that mid-Atlantic islands were potentially dangerous hazards to navigation. Nor should we forget that previous centuries lacked the geographical certainty provided to modern mariners by radar, aerial reconnaisance, and satellite imagery. Some of the islands which were first placed on maps by mediaeval geographers could still be found on the nautical charts used by captains of nineteenth-century Atlantic steamships. By this date they had become merely nuisances to cartography and navigation, yet in earlier times they had played an important role in exploration. During their several centuries of existence, these mythical islands had attracted explorers and navigators ever further into the Atlantic, and thus had been a major factor in the European rediscovery of the New World.

CHAPTER 6

THE NEWE FOUND ISLANDE

In 1497, John Cabot sailed from England, and reported the discovery of an island in the far northwestern Atlantic. A letter recently discovered in a Spanish archive now suggests that this "New Found Land" may have been discovered by Bristol fishermen before the voyages of either Cabot or Columbus.



To find their latitude, fifteenth-century navigators used the quadrant. A simplified form of an astronomical instrument, the quadrant was a quarter-circle of thin metal with an attached plumb-line, and could be easily made by hand. (Height: 8.7 cm)

The 1490s are usually seen as the period when the major and lasting discoveries of the New World occurred. In 1492 Columbus sailed westward from Spain and found the islands of the Caribbean. Five years later, John Cabot made a voyage westward from England and discovered another island in the depths of the North Atlantic. The first of these voyages can be seen as leading to the birth of the Spanish civilization of Central and South America, the second, to the birth of the English civilization of North America.

The voyages of both Columbus and Cabot rank as major historical events, yet the amount which we know about the two Italian explorers is remarkably different: Columbus lived for a considerable time after his discoveries, long enough to describe his voyages in detail, gather honour and fame, and attain the Spanish title "Admiral of the Ocean Sea." Cabot disappeared the year after his successful voyage, leaving no written description of his work, no portrait, not even a signature on any document that historians have found. To make matters worse, his son Sebastian outlived his father by well over half a century, and claimed his father's discoveries as his own. Until the nineteenth century, Sebastian Cabot was treated by most historians as the English discoverer of North America. But historical fashions change, and by the first half of the present century the honour had been restored to the father, John.

Then in 1955 an historian working in the archives of Simancas, in Spain, discovered a document which seems to confirm John Cabot as the master of the first official English voyage to the New World, but places his voyage in the context of several earlier and unofficial voyages from the western English port of Bristol. Cabot was the explorer who officially claimed an English stake in the New World; but was he the first English voyager to that country which immediately became known as the New Found Land?

The John Day Letter

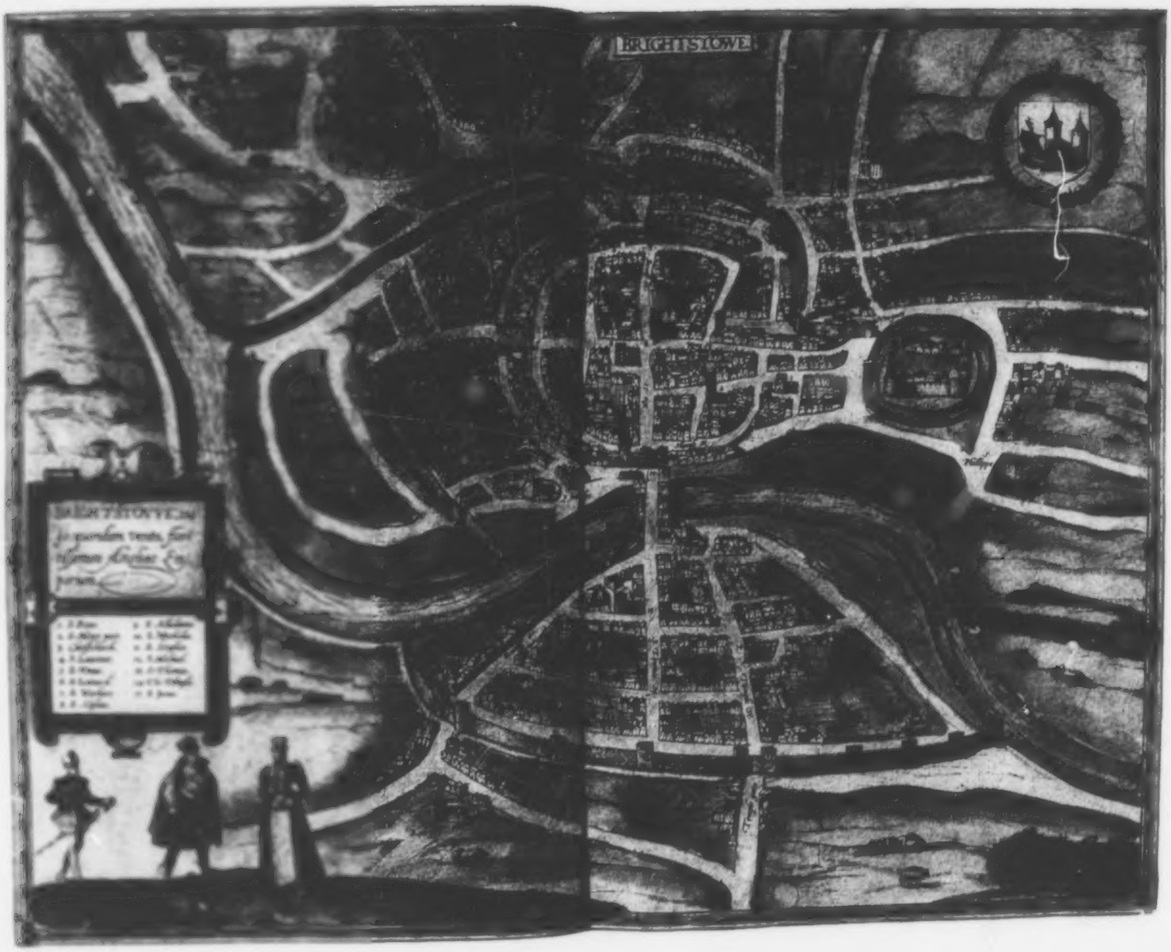
The document found in the Simancas archive, which was published in 1956, was an undated letter written in Spanish by an Englishman named John Day, addressed to "El Almirante Major." Christopher Columbus was the only Spanish official of the time who was referred to by this title, and the letter was almost certainly addressed to him. John Day is relatively well known from other records of the day as a Bristol merchant who had extensive trading interests in Spain. The purpose of his letter was to report that an unnamed explorer, sailing from England, had discovered an island in the western Atlantic. For this service, the King had granted the explorer an annual pension of 20 pounds, and had outfitted another expedition to take place in the following year. This information confirms that the explorer was John Cabot (who from other sources we know was granted such a pension by Henry VII), and dates the letter to the months between the return of Cabot's 1497 voyage and the departure of his ill-fated voyage of 1498.

To this point, the letter merely confirmed what had been pieced together from other records concerning John Cabot's place in English exploration. The John Day letter, however, went on to supply further information on English voyages to the west. A translation of the most interesting portion of the letter reads as follows:

> *It is considered certain that the cape of the said land* [that is, the land found by Cabot in 1497] *was found and discovered in times past by the men of Bristol who found Brasil as your Lordship knows. It was called the Isle of Brasil and it is assumed and believed to be the mainland that the Bristol men found.*

The interpretation of this paragraph has been debated for the past 30 years. The main discussion has dealt with the meaning of the Spanish phrase "*en otros tiempos*" ("in other times" or "in times past"). Does this phrase refer to the year before Cabot's voyage, a decade earlier (which would place it before Columbus' "discovery" of the New World), or does it refer to a legendary event lost in the mists of antiquity, and therefore not to be regarded as serious history? The respected English historian David Quinn has made a close study of the problem, and has concluded that the John Day letter confirms other evidence suggesting the possibility of English discoveries in the western Atlantic at least a decade before Columbus' first voyage.

The evidence in support of John Day's statement comes from various local records and histories, generally centred around the port of Bristol. The earliest is from the year 1480, and



Bristol in 1572. A register from 1498 shows that John Cabot had a house not far from the port. From its position on the Atlantic coast, Bristol dominated fifteenth-century English commerce with Iceland to the north and Portugal to the south.

states that a ship left Bristol for the island of Brasil to the west of Ireland, but was storm-tossed and returned without having found the island. The following year, several records refer to two Bristol ships, the *George* and *Trinity*, which sailed to "serch & fynde a certain Isle called the Isle of Brasile." One of these ships, the *George*, carried 40 bushels of salt, an indication that fishing as well as exploration was an object of the voyage. The ships returned, but there is no mention of what they found or did not find. The partners who supported the 1481 voyage of the *George* and *Trinity* had a license to make further voyages during the following two years, but no record of these voyages has been found.

In 1498, a Spanish official in London, reporting to the King of Spain on Cabot's voyage of the previous year, stated that, "For the past seven years the people of Bristol have equipped two, three or four caravels to go in search of the Island of Brasil and the Seven Cities according to the fancy of this Genoese" (the Genoese referred to being John Cabot). In a document which dates to 1527 Robert Thorne, son of a Bristol merchant of the same name, claimed that his father and another merchant named Hugh Elyot were the discoverers of "the New Found Landes." Quinn concludes that the English had likely discovered something in the western Atlantic several years before the voyage of Cabot, and probably before the voyage of Columbus in 1492.

Bristol Fishermen and Merchants

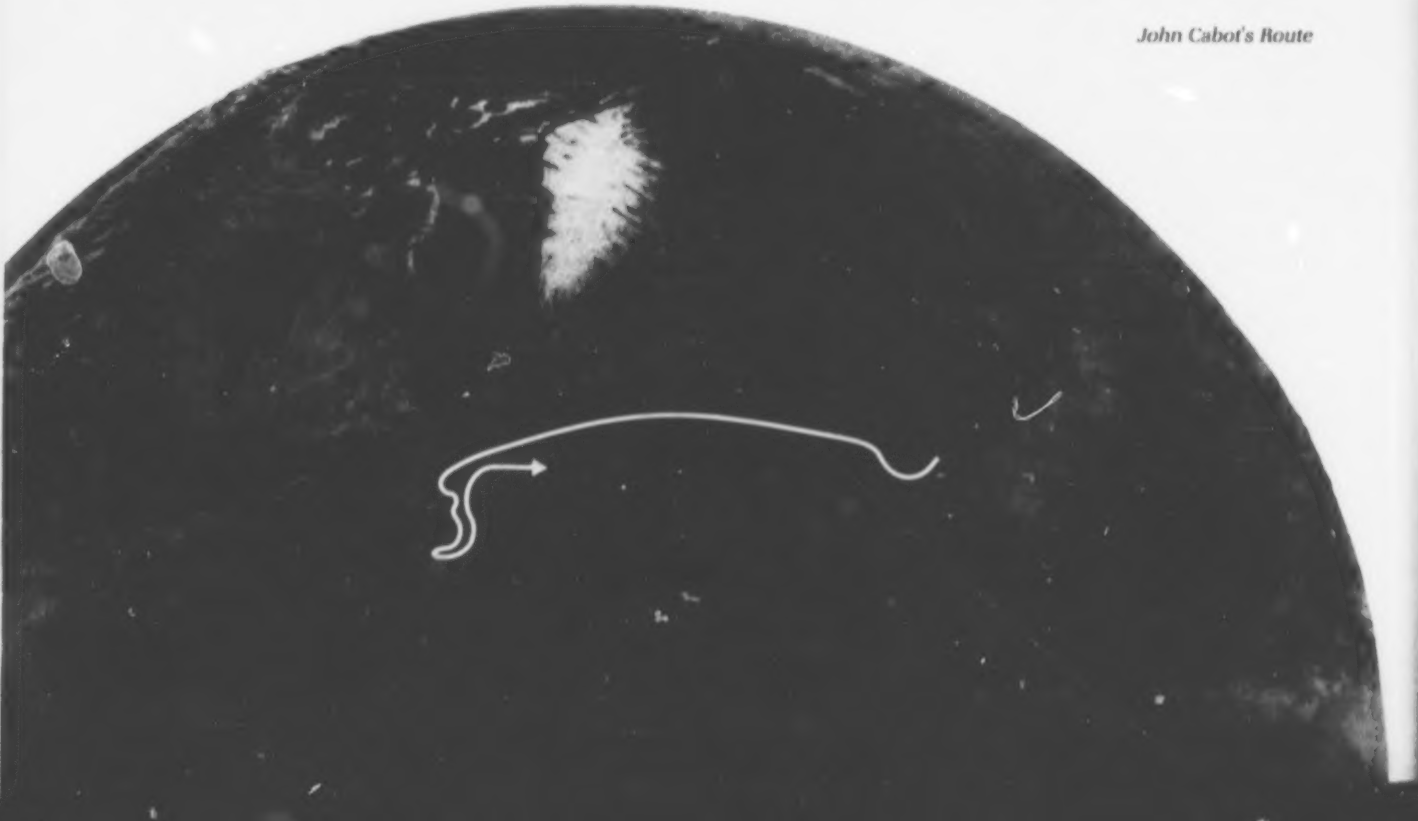
If the theory of a pre-Cabotean discovery is correct, what sort of find are the men of Bristol likely to have made? Why would their discovery not have been hailed, as was that of Columbus, *Christopher Columbus'* Nina *is chosen to illustrate the ships used by late fifteenth-century explorers, since we know more about her than about any other ship of the period. The* Santa Clara, *nicknamed* Nina, *was less than 20 m long and had a cargo capacity of only about 50 tonnes. She was a caravel with lateen rig, which Columbus re-rigged with square sails during a stop at the Canary Islands.*

as a major event in European exploration? Why would John Cabot, an immigrant navigator from Italy, have later been rewarded for discovering new land in the west? The most likely explanation would seem to be one that takes into account the motives which would have propelled sailors from the port of Bristol into the western Atlantic during the final decades of the fifteenth century.

English sailors certainly had the ships, the navigational abilities and the experience to make extensive ocean voyages at this time. The extent of the voyages made by English fishermen is suggested in a note compiled about 1478 by the English chronicler William Worcestre, who records that around the beginning of the fifteenth century, Iceland had been accidentally discovered by "Robert Bacon, a seaman among the fishers of Cromer town, of English birth." Throughout most of the century, Bristol had been one of the leading English ports engaged in trading and fishing in Icelandic waters. Not only had Iceland provided a market for English goods, but it was also the major source of the stockfish (dried cod) which was such a valuable commodity to English merchants. The Icelandic trade and fishery was not pursued without problems, including sporadic states of war between England and Denmark, which ruled Iceland at the time. Denmark was naturally within the sphere of influence of the northern German Hanseatic League, and Hanseatic ships had royal permission to trade with Iceland. Denmark repeatedly complained to England about English ships in Icelandic waters. Such ships were reported to be engaged in unlicensed fishing, trading, and even coastal raiding and kidnapping of Icelanders. In 1478, Denmark installed a German, Diddrik Pining, as governor of Iceland, and for the next twelve years Pining successfully drove most English shipping from Icelandic coasts.

It is perhaps no coincidence that the first records of Bristol ships searching for, or visiting, an island in the western Atlantic occurred only two years after Pining began his campaign to put an end to English fishing and trading in Iceland. The ships engaged in the Atlantic search were almost certainly the same ones that had previously engaged in Icelandic ventures, and it can probably be assumed that they

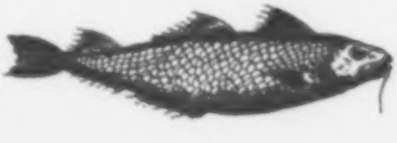
John Cabot's Route



Codfish

The history of Canada is generally linked to the beaver, a national symbol and the basis of the fur trade which opened northern North America to the European economy. The codfish probably deserves equal or greater recognition, as the resource which first drew European industry to the eastern shores of the country, and as the economic basis of the first successful European colonies of the Atlantic coast.

The cod is a groundfish of cold northern waters that grazes the shallow seas overlying continental shelves. Long before Newfoundland was discovered, codfish had become a staple of a Christian European diet which required abstinence from meat on three or more days of the week. Its firm white flesh, fine taste, large size and excellent storage qualities, gave codfish a prominent place in European subsistence. The fishing fleets of northern Europe searched constantly for new and productive fishing grounds, and by the late fifteenth century most codfish were being taken from Icelandic waters.



This drawing of a cod is from a work published in 1565 by the Venetian editor Ramusio.

John Cabot's 1497 report that the codfish were so thick in the waters off his "Newe Founde Isle" that they could be taken in baskets let down from the side of a ship, was met with great enthusiasm by fishermen of England and other European countries. And the shallow fishing banks off Newfoundland and Nova Scotia did indeed, offer the most productive codfishing known before or since. These fish probably averaged 10 to 20 kilograms, and some were up to two metres long and 100 kilograms in weight. They occurred in such dense concentrations that some early fishermen reported (perhaps with little exaggeration) that it was difficult to row a boat through their schools.

The cod fishermen of the 1500s used methods which continued into the early twentieth century and are still occasionally practiced for home consumption among the depleted cod stocks of the present day. The fishing was done either from the decks of anchored ships or, more usually, from small rowing boats. A large, heavily weighted but unbaited hook was let down close to the bottom of the sea, usually in 20 to 50 metres of water, was jigged up and down, and was usually taken immediately by a fish. The cod was hauled up hand-over-hand, thrown off the hook, and the hook lowered immediately; in shallow water, cod could often be taken at a rate of one a minute. Back at the mother ship, or at a shore station, the fish were headed and gutted, and prepared for storage. Storage took two forms, which led to the development of two distinct fisheries, the "wet" and the "dry."

The wet fishery was practiced by Spanish, Portuguese and some French fishermen, who had access to cheap and plentiful salt. The cleaned fish were simply heavily salted and packed in barrels for transport to Europe; the fishermen didn't need to go ashore, and were often able to fill their ship in a month or so and make two trips a year to the Grand Banks off the southern coast of Newfoundland. English fishermen, as well as some Normans and Bretons, practiced a preservation technique that was far more laborious, but required much less salt. The making of "dry fish" involved cleaning and splitting the cod, salting them lightly and spreading them to cure on the clean gravel or shingle of a beach, turning and covering them frequently to protect them from rain or fog. As shore stations became more elaborate, the beaches were supplemented by "flakes," large

raised tables of twigs and brush on which the fish were cured, and which can still be seen in many east coast villages.

Sun-cured codfish has the weight and texture of a light wood, will last indefinitely if kept dry, and is easily reconstituted by soaking in water. It became Canada's first major export to the world, a staple food throughout western Europe and the Caribbean, and the basis of numerous delicate and delicious recipes. For almost five centuries the economies of Newfoundland and other regions of Atlantic Canada have centred on the cod fishery, and for at least the past century the stocks have been recklessly overfished. It is unfortunate that the present decade, which will celebrate the 500th anniversary of John Cabot's discovery, may also see the final destruction of the cod populations off our Atlantic coasts.

This anonymous painting of the fish market in Antwerp, painted about 1,550, captures the atmosphere of a European port in the mid-sixteenth century. During the Age of Discovery, Catholics abstained from eating meat on over 160 days per year. Religious duty ensured that fish was a very important food, and for most western Europeans cod was the fish which was tastiest and most easily cooked.

were seeking the same opportunities: markets for English goods, but more importantly an alternate supply of codfish to replace what they could no longer obtain in Iceland.

David Quinn conjectures that if Bristol ships did discover land in the northwestern Atlantic, it may have been important to them only as a marker indicating the location of a new and extremely rich fishing ground off the coasts of Newfoundland. The fishermen of Bristol may not have seen any riches, or indeed any use, in an island such as Newfoundland; it certainly would have yielded no precious metals, spices or other trade, and the fishermen may have gone ashore only in order to obtain water. They would have seen no advantage to proclaiming their discovery, particularly if it advertised the location of new fishing grounds. In such a situation, and in the context of the recent discoveries of Columbus, a navigator like John Cabot who had lived in Spain and who saw other potentialities in the rumours of a newly discovered island — as a station on the road to China rather than the marker of a fishing ground — may have easily obtained royal approval for an official English voyage of discovery in the west.

Who Was John Cabot?

Although most twentieth-century Canadian schoolchildren are taught that Canada was discovered by John Cabot, we know remarkably little about the man or about his voyages of discovery. He was probably born Giovanni Caboto, but his place of birth is not certain. Some records from the time of his voyages refer to him as a native of Genoa, but no Genoese archive has produced a trace of his existence. He may have been born in Genoa (probably about the same time as that other famous Genoese explorer, Christopher Columbus), but his family seems to have moved to Venice while he was a boy, and he became a citizen of that city in 1476. He seems to have established himself as a merchant, involved in the Venetian trade with Arab countries around the eastern Mediterranean. He is said to have made a trip to Mecca, probably disguised as an Islamic pilgrim in order to penetrate that holy city.

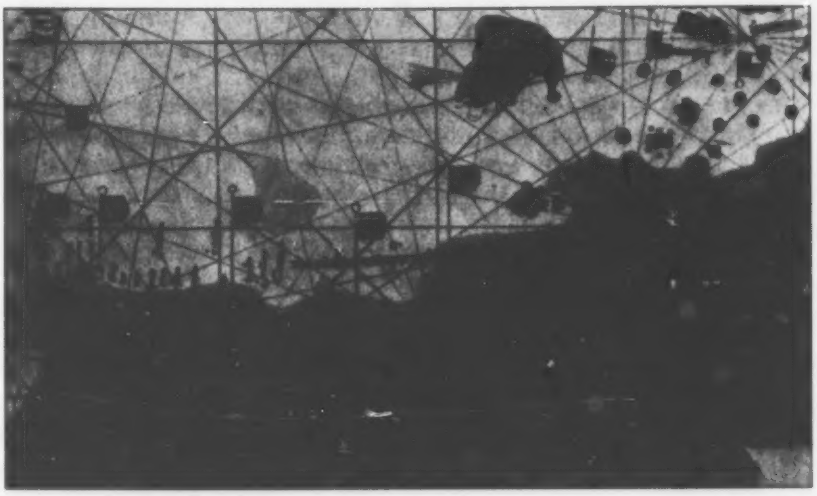
In 1484 we have a record that he was married with two sons, but he then disappears from historical records for over a decade, reappearing in England around 1495. It seems likely, however, that in the intervening period he appears in Spanish records as Juan Caboto Montecalunya, a navigator who began about 1490 to approach Spanish and Portuguese officials with a scheme to sail westward across the Atlantic in order to reach the Orient. At the time that Columbus was granted permission to undertake such a voyage, Juan Caboto was acting as a consultant on a harbour project in Valencia, where he must have been in a good position to learn firsthand the results of Columbus' successful expedition.

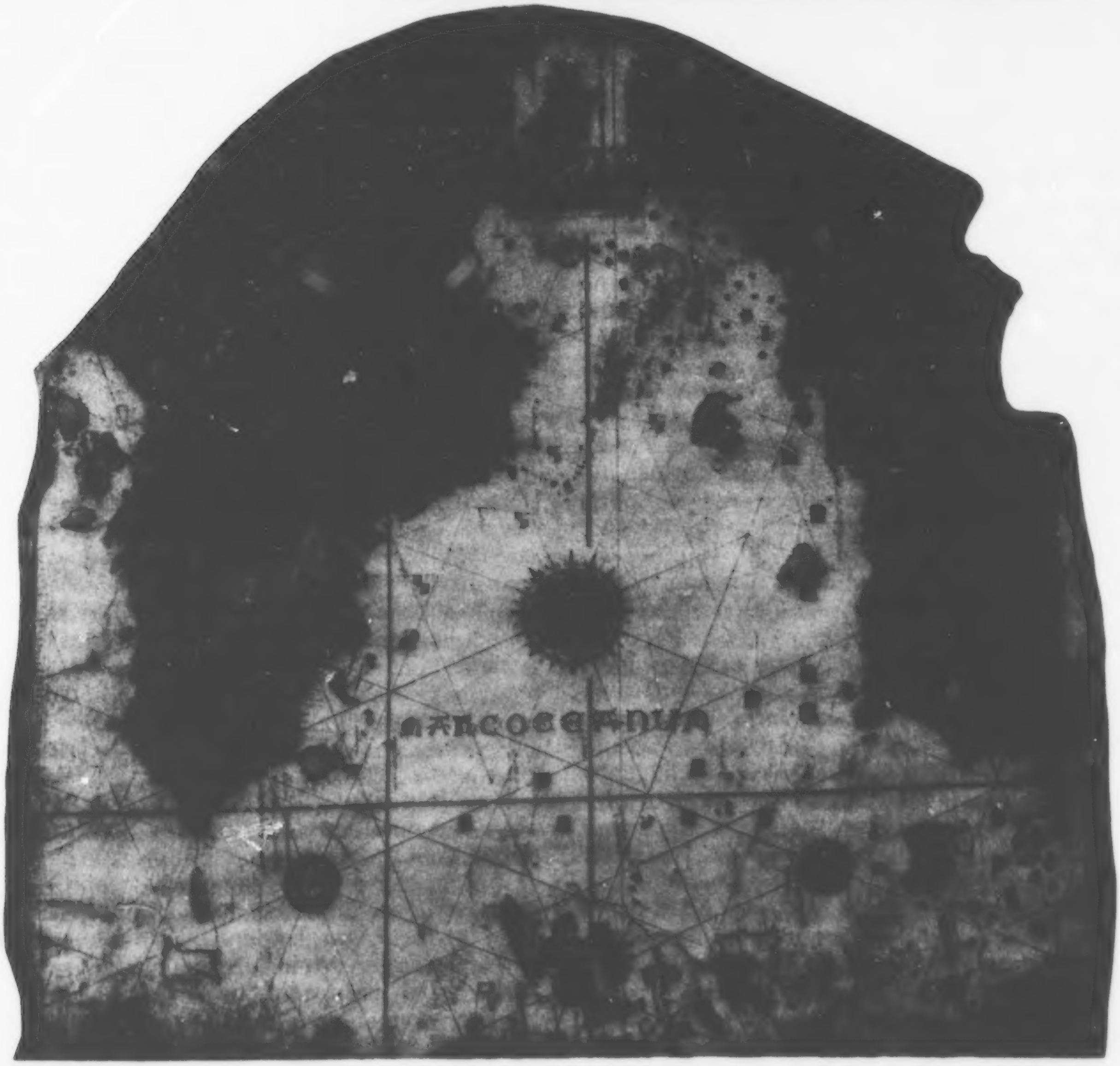
Having been forestalled in his plans to discover a route to the Orient by sailing westward from Spain, Cabot may have decided that better opportunities lay in England. Not only must the English king be feeling somewhat behind his southern rivals in nautical discoveries, but a glance at a globe (such as the one Cabot made in 1497 to show the King) would indicate that England's northern latitude provided a potentially short route to the Orient. If Columbus could discover the outliers of India by sailing the long route westward from Spain, Cabot could surely find the outliers of Cathay by sailing across the narrow longitudes west of Ireland. Accordingly, Cabot and his family arrived in England at some time around 1495, settled in Bristol, and began petitioning the King for a licence to undertake, at his own expense, an expedition to place the British flag on an Oriental land.

Did Cabot have other reasons for selecting Bristol as a base for a northern voyage? Had he heard the rumours of earlier Bristol expeditions in search of the Isle of Brasil? Or had he heard stories originating in Iceland regarding land in the western Atlantic? Some scholars have suggested that Cabot, like his fellow-explorer Columbus, made a journey to Iceland. Cabot has even been identified, on the basis of no sound evidence, with "The Guest at Ingjoldsholl"; according to an Icelandic folk-tale, the guest was a "Latin man" who arrived at Snaefellsnes about this time in a ship from Bristol, and who lived there for some time while inquiring about exploration in the western Atlantic

If Cabot did travel to Iceland, he undoubtedly could have heard accounts of the Greenland colony to the west, which must have still been alive in Icelandic memory, and possibly of Norse voyages to Markland and Vinland. Yet Cabot could equally well have heard such sto-

Attributed to Juan de la Cosa, owner of the Santa Maria *and companion of Columbus, this map drawn in 1500 shows the oldest known representation of the West Indies. It also shows, in its northern section, the only trace of John Cabot's voyage known from a contemporaneous map. Along a northern section of coast are five English flags, and the inscription* mar descubierta por inglese *(Sea discovered by an Englishman), which must represent the land discovered by the Venetian navigator sailing in the service of Henry VII (see detail).*





ries without leaving Bristol, the centre for English fishing and trading with Iceland. According to an alien census roll of 1484, 48 Icelanders were resident in Bristol at that time. Most were working as servants, and some had perhaps been captured in English raids on Icelandic settlements, but at least one (a William Yslond) had become a naturalized citizen and a Bristol merchant by 1492. Tales of land to the west, originating either from Icelandic contacts or from fishermen talking of the Isle of Brasil, may have been among the considerations which attracted John Cabot to the city of Bristol. If he had not heard such tales before he came to Bristol, he must certainly have been told them while residing in that city and discussing his plans for a voyage of discovery. By the time he sailed, Cabot must have been well aware of local rumours about what he could expect to find in the western Atlantic.

The Cabot Voyages

Cabot received a royal warrant to explore westward from England in 1496, and according to the John Day letter he did undertake a voyage that year, but was turned back by a discouraged and mutinous crew. Undaunted, he fitted out a small ship named the *Mathew* the following year and sailed westward once again. Despite the fact that the 1497 expedition resulted in the discovery of North America, we know surprisingly little about the details of the voyage. English records relating to the discovery are practically nonexistent. Until 1955 the main sources of information were two reports written by Italian diplomats in England. The discovery of the John Day letter, however, added a significant amount of new information about the 1497 voyage.

Our knowledge of Cabot's 1497 voyage is easily summarized. The *Mathew* left Bristol in late May and probably set course for southern Ireland, finally departing from somewhere in the southwest of that country. They sailed for 35 days before easterly and northeasterly winds, encountered one storm, and made landfall early in the morning of St. John's Day, June 24. The party went ashore in a forested area close to their landfall and set up a cross bearing the papal arms and the arms of the King of England. They found a path leading into the woods, a spot where a fire had been made, snares for animals and a red-painted stick which might have been a netting needle. These signs of human habitation seem to have caused them some anxiety, and they did not explore farther inland than a cross-bow shot. They took on fresh water, rowed back to the ship and did not go ashore again for the remainder of the voyage.

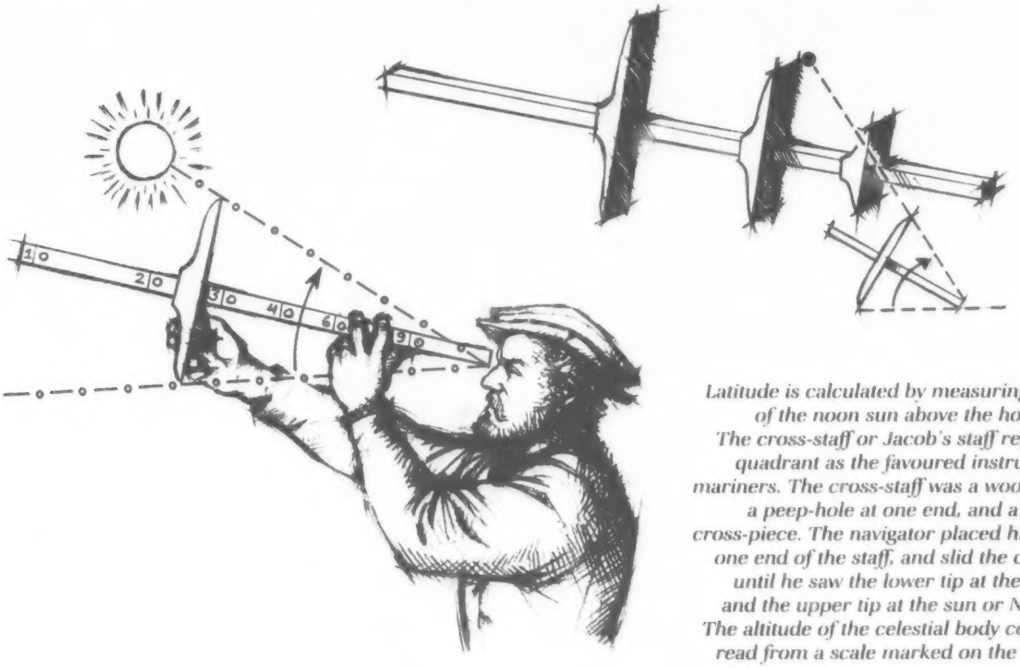
They explored the coast for about a month, seeing fine forests, what they thought might have been cultivated fields, but no people save for two creatures seen in the distance which might have been humans or animals. They also found that the coastal waters teemed with codfish, in such dense concentrations that they could be caught in weighted baskets let down over the side of the ship. Cabot then returned to his original landfall, and departed for a remarkable 15-day return trip to Europe. During this leg of the voyage the crew convinced him that he was steering too far north, so he altered course to the south but made a landfall in Brittany. He had to work his way northward to Bristol, where he arrived on August 6. Cabot left immediately for London to report his discovery, and on August 10 King Henry VII awarded the sum of 10 pounds "to hym that founde the new Isle."

This reward was supplemented some months later by an annual pension of 20 pounds, and a licence to make another voyage the following year in order to begin exploitation of the new discovery. In May 1498, Cabot set out across the Atlantic at the head of a convoy of five ships. One was damaged in a storm and returned to Ireland, and the other four disappeared. Thus John Cabot vanishes from historical records within a year of his great discovery; his pension was cancelled the following year. In the words of the contemporary historian Polydore Virgil, "He is believed to have found the new lands only at the bottom of the ocean."

What Did Cabot Discover?

Before the John Day letter came to light, there was no precise information on the location of Cabot's "newe found islande." As in the case of the Norse in North America, local or regional interests produced differing interpretations of the vague evidence available, and developed arguments to support Cabot's having landed anywhere from Labrador to New England. Newfoundlanders have always been convinced that their island was the obvious candidate. Before the 1949 confederation between Canada and Newfoundland, Canadians found this hard to accept and most Canadian historians chose Cape Breton as the likely landfall. This alternative also had the advantage of making Cabot the discoverer of mainland North America, since prior to 1498 Columbus had discovered and visited only Caribbean islands. Some American scholars, not surprisingly, have suggested that Cabot's landing may have occurred on the coast of Maine.

John Day's letter to Christopher Columbus seems to have finally settled the argument. According to the letter, Cabot thought he had discovered the easternmost cape of mainland Asia, as well as one or more islands adjacent to it. Day reports that "the cape closest to Ireland is 1,800 millas west of Dursey Head, which is in Ireland, and the lowest part of the Isle of Seven Cities is west of the River of Bordeaux." Dursey Head is in southwestern Ireland, at a latitude of 51° 33' N; the River of Bordeaux must be the Gironde, the mouth of which lies at a latitude of 45° 40' N. Cape Bauld, the northern tip of the island of Newfoundland, lies in latitude 51° 39' N, only six nautical miles (10 kilometres) farther north than Dursey Head in Ireland. Cape Race, at the southeastern corner of Newfoundland, lies at 46° 40' N, roughly 60 miles (100 kilometres) north of the latitude of the Gironde. Considering the imprecision of navigational instruments of the time, and the fact that Cabot must have measured his most southerly latitude from shipboard rather than from land, it seems almost certain that the region of the New World which Cabot discovered and explored was the eastern coast of Newfoundland. The statement that "the cape closest to Ireland is 1800 millas west of Dursey Head" fits this interpretation, if the "milla" is anything like a modern mile, and considering that fifteenth-century navigators based their calculations of longitude on little more than guesswork; Cape Bauld is approximately 1600 nautical miles (or 1800 standard miles) west of Dursey Head. The interpretation of Newfoundland as part mainland and part island is not surprising, considering the several deep bays which indent the eastern coast; maps a century or more later showed Newfoundland as a cluster of islands.



Latitude is calculated by measuring the height of the noon sun above the horizon. The cross-staff or Jacob's staff replaced the quadrant as the favoured instrument of mariners. The cross-staff was a wooden rod with a peep-hole at one end, and a sliding cross-piece. The navigator placed his eye against one end of the staff, and slid the cross-piece until he saw the lower tip at the horizon and the upper tip at the sun or North Star. The altitude of the celestial body could then be read from a scale marked on the main staff.

Not all historians agree that the description in the John Day letter indicates that Newfoundland was the only area discovered by Cabot. David Quinn, for example, holds with Cape Breton (at 45° 57' N, only 17 nautical miles north of the latitude of the Gironde) as Cabot's landfall, followed by a month-long journey eastward and northward, and a departure from Newfoundland in the vicinity of Cape Bauld. A more persuasive argument, however, is put forward by the American historian Samuel Eliot Morison, whose study of documents is augmented by a deep knowledge of sailing and sailing ships, and by marine and aerial surveys of most of the east coast of North America. Morison argues that Cabot probably practiced the "latitude sailing" commonly used at the time; he departed from Ireland somewhere in the vicinity of Dursey Head, and sailed westward along a line of latitude by keeping the sun and the pole star at a constant elevation. This would have brought him to the northern tip of Newfoundland, and Morison guesses that Cabot went ashore and raised his cross in what is now Griquet harbour. He considers that a month of exploration would be appropriate for a journey down the eastern coast of Newfoundland, and for the return to the original landfall which is suggested in the John Day letter. He further argues, rather convincingly, that it would have been very difficult for Cabot to have reached Cape Breton without running into Newfoundland, or at least seeing it to the north while crossing the extensive Grand Banks.

If Morison's interpretation is correct, and it does seem to be the one that best fits the information contained in the John Day letter, it suggests that Cabot's original landfall was only a few kilometers from the Norse settlement at L'Anse aux Meadows. This could have been, of course, the result of pure coincidence brought about through Cabot's technique of "latitude sailing" from a departure point in southern Ireland. On the other hand, Cabot may have been navigating purposefully towards the northern end of the Strait of Belle Isle, a location which figures largely in the very early European history of Canada. Knowledge of the location may have come from any of three sources: Icelandic records or memories of the location of Vinland; the accounts of Bristol fishermen who had visited the locality a few years before Cabot, and whose knowledge again may have been originally based on Icelandic sources; or European geographical knowledge of the kind that may have been incorporated in the "Vinland Map" half a century earlier.

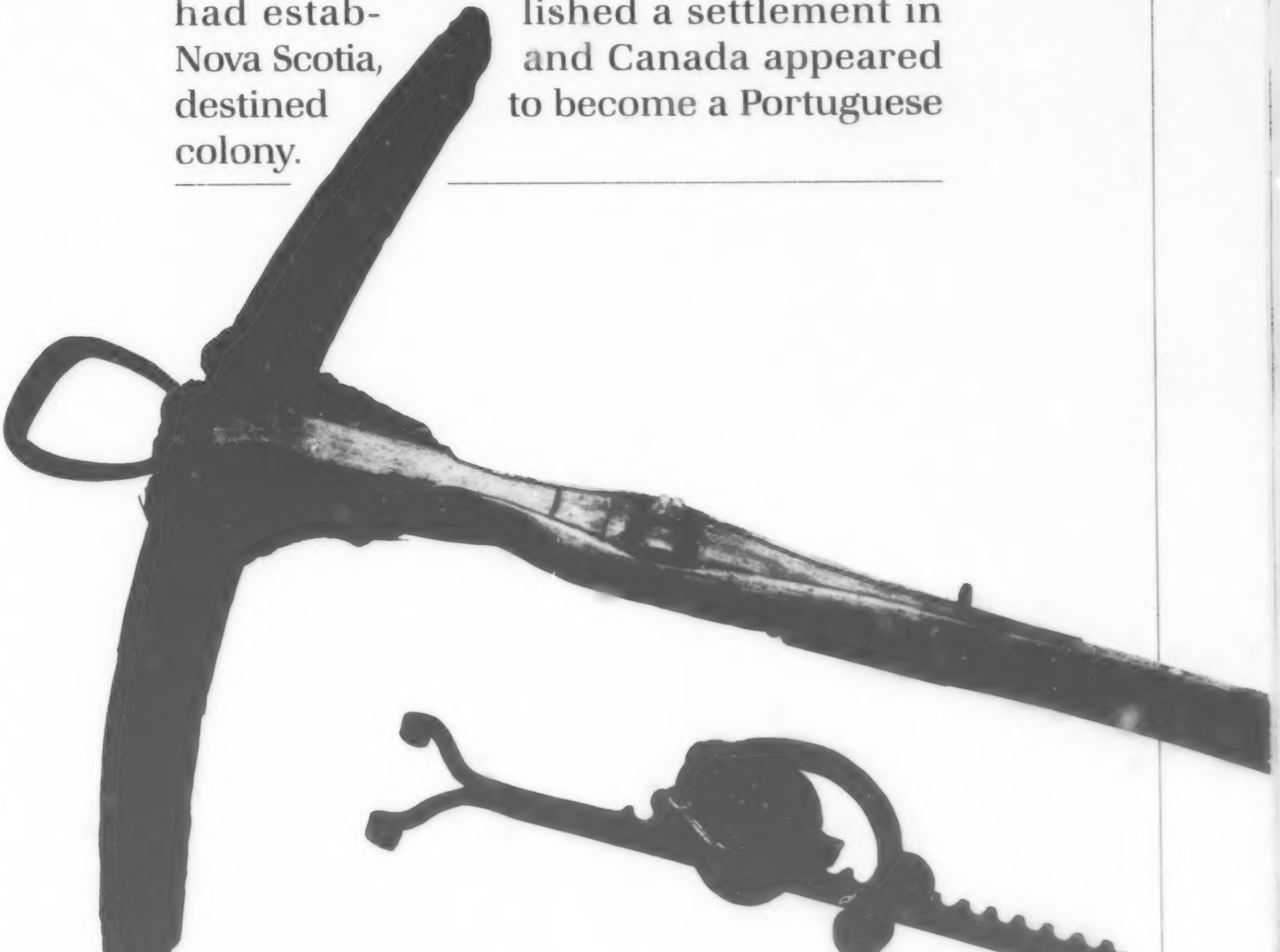
Was John Cabot Searching for China, or for Newfoundland?

We are left with the suspicion that John Cabot may have known where he was going when he sailed westward from Bristol. His discovery of North America may not have been the lucky result of an attempt to reach Cathay, based on a purely theoretical concept of world geography. He may have been travelling to a known location, which he incorrectly interpreted as an outlier of Asia. This interpretation implies a continuity of European knowledge about eastern Canada, from Norse times to the Renaissance. We know that the Greenlandic Norse were visiting eastern Canada at least as recently as 1347. If the historian David Quinn is correct, Bristol fishermen may have been making use of the area as early as 1480, and perhaps before the final demise of the Greenlandic Norse settlements. The remarkable voyage of John Cabot may, therefore, not have been a voyage of discovery, but merely another event in a continuous series of European visits to the region over the previous 500 years.

CHAPTER 7

THE LABRADOR

Did the Portuguese discover Canada? We know that by A.D. 1500, Portuguese navigators had rediscovered Greenland, and were exploring and raiding the eastern coasts of Canada. Within twenty years they had established a settlement in Nova Scotia, and Canada appeared destined to become a Portuguese colony.

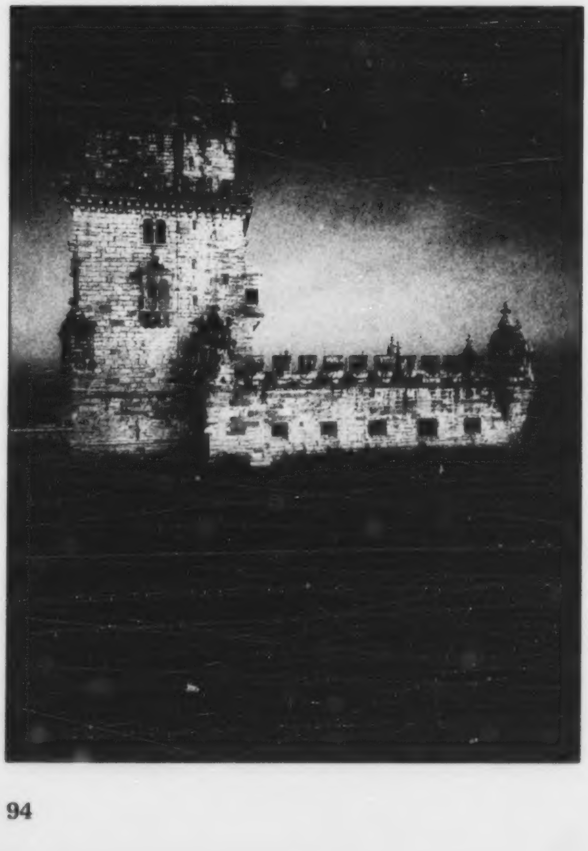


This Spanish crossbow dates from 1480-1500. The very strong bow was bent by means of a crank, and the bolt from such a weapon could pierce most body-armour at a distance of one hundred metres.

Several European nations were involved in the fifteenth-century search for Atlantic islands. In the previous chapter, we have seen that from about 1480 onwards, the merchants and navigators of Bristol sent several expeditions into the western Atlantic, mostly in search of the "Isle of Brasil." This search culminated in Cabot's discovery of Newfoundland in 1497, and it has been suggested that this event may have merely followed earlier English discoveries in the area. There is also a possibility that the Portuguese had made pre-Cabotian and even pre-Columbian discoveries in the northwestern Atlantic.

The Portuguese led the early European search for Atlantic islands. By the 1450s they had discovered and settled the Canaries, Madeira, the Cape Verdes and the Azores. The latter islands lay in mid-Atlantic, almost halfway between Portugal and Newfoundland, and were to provide the base for early sixteenth-century Portuguese exploration farther to the west and north.

Built on the Restelo, the shore from which so many voyages of exploration departed, the Bélem tower in Lisbon dates from the early years of the sixteenth century. Its decorative motifs evoke scenes from Portuguese exploration.

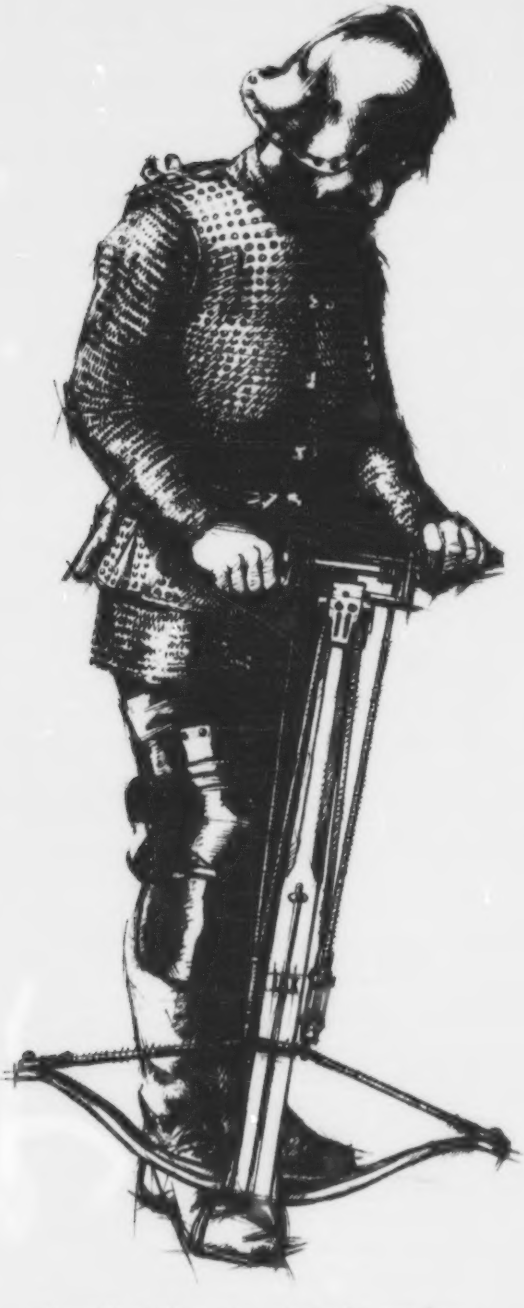


Land West of The Azores?

The Portuguese discovery and settlement of the Azores provided these expert explorers with a far western base from which to launch further expeditions. It also gave them clear indications that there was land worth searching for to the west. The Azores are bathed by a northwesterly ocean current, an offshoot of the Gulf Stream which carries flotsam picked up from the eastern shores of North America. Writing of the evidence Columbus had gathered prior to his 1492 voyage of discovery, the sixteenth century author Bartolomé de las Casas states that:

> *It was made known to Columbus by some inhabitants of the Azores that when the wind blew strong from the west and north-west the sea brought certain pine-trunks and deposited them on the coasts of those islands... Others told him that in the island of Flores, which is one of the Azores, the sea had brought up the bodies of two dead men who seemed very broad in the face and of an appearance different from that of Christians...* [He was also told of] *hollowed trunks or canoes with a moveable covering ...* [which had been accidentally blown offshore and] *... since they never sink, came to land in time at the Azores.*

Such indications of land to the west or northwest, and land inhabited by people who used strange boats and had "an appearance different from that of Christians," must have encouraged early Azorean settlers to make further explorations in this quadrant. The first occurred in 1452, and resulted in the discovery of Corvo and Flores, the two westernmost Azorean islands. The discoverers, Pedro de Velasco and Diogo de Tieve, are said to have sailed to the north as well, where they eventually landed in Ireland. During this voyage they were caught in a heavy westerly storm, but since the seas remained calm despite the west wind, they suspected they were sailing in the lee of a land they did not see. According to Las Casas, Columbus was told a similar story by "a decrepit old sailor" who, on a voyage to Ireland, sighted a land believed to be Tartary, which the ship could not approach because of terrible winds. Las Casas states that he "believes truly (that this land) was that which we now call Bacallaos," the sixteenth century Portuguese name for Newfoundland.



This soldier tightens the string on his crossbow. Having placed his foot in the stirrup as a brace, he winds the crank until the cord reaches a stop, which will be released by the trigger when the weapon is fired. He wears a garment made of rivetted metal plates over a leather vest.

Portuguese court records from the second half of the fifteenth century contain several licences, patents and grants to islands not yet discovered, issued to a variety of mainland and Azorean navigators. There is no evidence that any of these explorers actually claimed discoveries to the west of the Azores, yet there are indications in the cartography of the period hinting that something may have been found far northwest of the Azores.

The Milan Chart and the Paris Map

The first such hint appears on a Spanish chart of the Atlantic Ocean, apparently drawn about 1480, now in a library in Milan and consequently known as the Milan Chart. The British Isles and Iceland are drawn in some detail; the latter is labelled *Fixlanda* and contains a number of local placenames. The map also portrays a few of the familiar mythical islands, including a small circular Isle of Brasil to the west of Ireland. South of it lies the mythical island of *Mayda*, usually associated with the Azores. Far to the northwest is a larger *Illa de Brazil* nestled into the southern bay of a large rectangular island labelled *Illa Verde*. This is a new configuration not known on earlier maps, and it shows the conjunction of four previously disparate phenomena to form an interesting and perhaps significant pattern:

(1) The narrow rectangular form of *Illa Verde* appears to be clearly derived from that of "Antilia" or "The Isle of Seven Cities" as it is shown on other fifteenth-century maps, and may represent this island in a new location and under a new name.

(2) This island is closely associated with the Isle of Brasil, which had hitherto been seen as a totally separate island with a separate history and location.

(3) Both islands are shown at roughly the latitude of Ireland, southwest of Iceland and northwest of the Azores, and forming a roughly equilateral triangle with Ireland and Iceland.

(4) The name *Illa Verde* (Green Island) may be related to Greenland, a name and a place which hovered on the margins of fifteenth-century European knowledge of the northern Atlantic.

What does this conjunction suggest about the knowledge available to the unknown cartographer who drew the Milan Chart? It might suggest that about A.D. 1480, he had heard of a discovery in the ocean, far to the west of Ireland and northwest of the Azores. Whatever he had heard, the news may have been sufficiently convincing to suggest that it accounted for both Antilia and Brasil, the foremost mythical islands

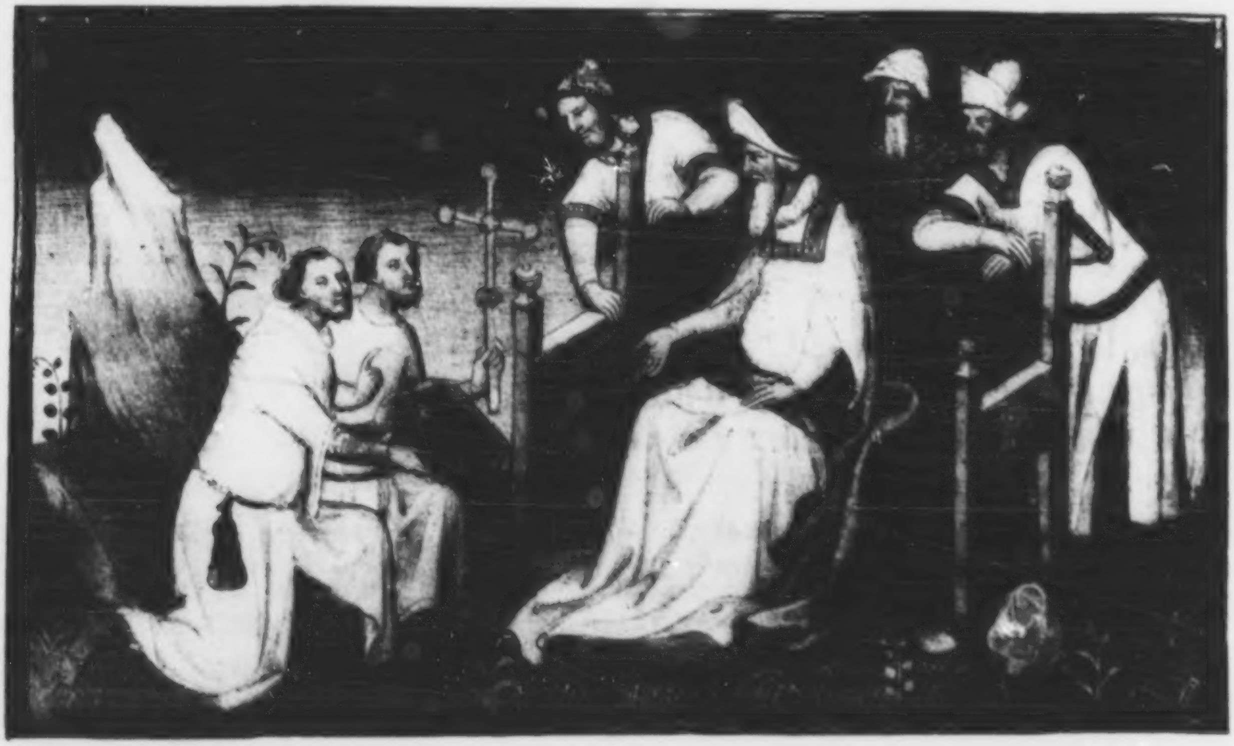
Divine Right

When John Cabot sailed from Bristol in 1497, he carried a document from King Henry VII granting "to our well-beloved John Cabot" the authority to discover and investigate islands or countries "of heathens or infidels, in whatsoever part of the world placed, which were before this time unknown to all Christians." Cabot and his sons were granted the right to "conquer, occupy and possess" any such countries or towns which they discovered, and to obtain title and dominion to these countries and towns on behalf of the King of England. Most other explorers of the period carried similar charters or letters patent, giving them the rights to claim ownership of newly-discovered territories in the names of their monarchs.

On what authority did the kings of European nations base their rights to discover, conquer and obtain title to other regions of the earth? As we can see from the charter to John Cabot, this authority was obviously based on a religious theory of ownership and title to land, which had developed through the European Middle Ages and was refined during the Crusades. According to this doctrine, the world was the property of the Christian God, who granted stewardship of worldly affairs to the Pope of the Christian church; European rulers, in turn, derived their authority from the Pope, in return for fealty and temporal support. Heathens and infidels had no place in this scheme of world ownership, and their lands were forfeit to the first Christians who could take them by force, guile or simple bluff. Applications of this theory of world ownership were not universally accepted. In 1245, Pope Innocent IV sent a delegation to the Mongol capitol of Karakorum, berating the Khan of the Mongols for overrunning eastern Europe four years previously, and advising him to become baptised. The Mongol ruler Kuyuk, nephew of Chingis Khan, replied that according to Mongol beliefs the world was divided into East and West, with the dividing line in what is now Poland. They acknowledged the Pope's supremacy in the West, but pointed out that his authority ended at the Vistula River, east of which lay the Eastern lands owned by the Mongols.

Ironically, it was the Mongol conquest from the Vistula to the Pacific that opened the way to trade between Europe and the Orient and eventually led to European attempts to obtain Asiatic goods by sea routes around Africa or westward across

In 1271 Venetian merchants of the Polo family made their second overland venture to China, where they were received by Kublai Khan. This miniature from the Book of Marvels *shows the travellers presenting the Mongol emperor with a letter from Pope Gregory X.*



the Atlantic. This, in turn, led to another division of the world into East and West, based on the papal proclamations of 1493. These decisions and the subsequent treaty of Tordesillas drew a mid-Atlantic demarcation line between the territories which could be acquired by Portugal in the east, and by Spain in the west.

The rate of discovery and the profits of exploitation which developed during the early sixteenth century, as well as the rise of protestant schism within the Church, soon diminished papal authority to assign zones of ownership. During the early sixteenth century the papacy was involved in answering a different question: whether the newly discovered peoples of the New World were to be considered as humans. In 1537 the Pope issued two proclamations stating that, "Man is of such condition and nature that he can receive the faith of Christ, and whoever has the nature of man is fitted to receive the same faith." The New World peoples were proclaimed to be as human as European Christians, could be allowed baptism and converted to Christianity, and could not be enslaved. The papacy was unclear, however, as to whether the heathen nations of the New World had the right to hold land and to prevent Christian occupation of their countries.

These ancient decisions, made on the basis of a politico-religious theory which has long been obsolete, are still relevant today. The inherent contradictions in Europe's attitudes to the First Peoples of the Americas — as people who were equal to Europeans before God, but who had less than equal rights to hold land and to govern their own societies — are the basis for most of the military and legal confrontations that still plague relations between the aboriginal peoples and newcomers to the New World.

of the Atlantic. The northwestern Atlantic position of this discovery may have suggested identifying at least one portion of the new land with Greenland, which was known from Icelandic and other northern European accounts to exist in the far northwest. Finally, the latitude and position relative to Iceland and the Azores suggest that the new discovery may have been located somewhere in the region of Labrador, Newfoundland or Nova Scotia. Did the supposed discovery occur during Azorean voyages such as those recorded by Las Casas as part of the knowledge assembled by Columbus? Did this discovery, or the existence of charts such as this, encourage Bristol fishermen to begin making western voyages about 1480, in search of an Isle of Brasil which was pictured as part of a larger Greenland configuration in the far west?

There are some similarities between the 1480 Milan Chart and another map drawn about a decade later, perhaps in Portugal. The latter is usually referred to as the Paris Map, and some attribute it to Christopher Columbus. It shows a well-delineated Iceland, a clear representation of the Azores, and a small Isle of Brasil southwest of Ireland. Far to the west of Ireland, in about the position of *Illa Verde* on the Milan Chart, is a tight cluster of three islands; these are labelled the "Island of the Seven Cities, now settled by the Portuguese." As mentioned in an earlier chapter, "Seven Cities" was a Portuguese synonym for the mythical island of Antilia, but this location is far northwest of the position that the island had been given on earlier maps. Here, too, for the first time the island is not drawn as a conventional rectangle with a few unconvincing bays or fabricated place-names. The coasts of the three islands are drawn realistically, and almost remind us of sixteenth-century maps of Newfoundland, which was usually represented as a cluster of islands. As on the Milan Chart, the new configuration forms almost an equilateral triangle with Iceland and Ireland, almost a square if the Azores are placed at the fourth corner. Again, this location hints at knowledge of a discovery made in the vicinity of Atlantic Canada, perhaps a Portuguese discovery, and perhaps even the establishment of a Portuguese settlement prior to the voyage of Christopher Columbus. Portuguese historians have unconvincingly linked this discovery with the name Joao Vaz Corte-Real, who is said to have made a voyage of discovery at some time around the

1470s. Unfortunately, this voyage is first mentioned over a century later in a document that is not considered trustworthy. Most non-Portuguese scholars have discounted the voyage of Joao Vaz Corte-Real, and give him credit only for raising sons who did make voyages of discovery a generation later.

The Treaty of Tordesillas

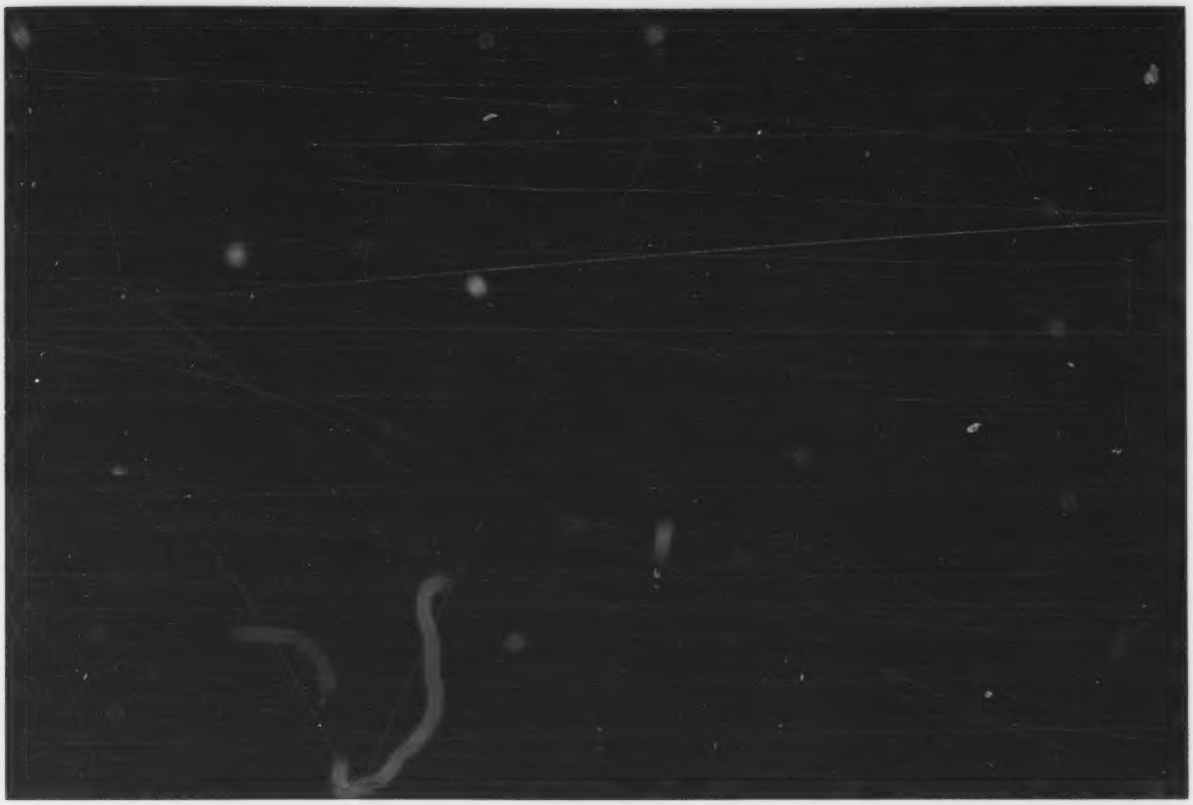
Columbus' 1492 discovery of the West Indies led to intense diplomatic activity designed to establish what would now be known as "national spheres of influence" in the areas of the world which various European nations were exploring. Spain and Portugal were the leading nations in exploration of the tropical and subtropical oceans. Columbus' voyage had given Spain its first and most important stake in western exploration; Portugal's primary efforts had been in the east, where for decades their navigators had gradually been pushing their way around the coasts of Africa. The Vatican soon became involved in defining the spheres of influence of the rival nations, and two papal bulls in 1493 recognized Portuguese interest in the east and Spanish in the west. This division was formalized in the Treaty of Tordesillas, signed in 1494, which placed the line of division between Spanish and Portuguese interest at a point 370 leagues (about 1,800 kilometres) west of the Cape Verde Islands.

These islands lie about 25° west of the African coast. The line of demarcation thus lay far to the west of Europe and Africa, but substantially to the east of Columbus' Caribbean discoveries. Considering how hard it was to make accurate measurements of longitude at that time, it is clear that no one knew exactly where the Spanish-Portuguese boundary lay. The treaty, however, did encourage the Portuguese to look further north and south for lands lying east of the line. They explored and settled the Brazilian portion of South America; and Brazil remains the only Portuguese-speaking nation of the New World. In the north, the only portions of the New World that could conceivably lie within the Portuguese sphere were Newfoundland, Labrador and Greenland. And indeed, these lands saw significant Portuguese exploration during the first quarter of the sixteenth century.

The Labrador

On October 28, 1499, King Manuel of Portugal signed a patent promising a certain Joao Fernandes the governorship of any islands

Routes of Portuguese Explorers



In 1494, the Treaty of Tordesillas fixed a line of demarcation which divided the world into two zones of influence: Spanish in the west and Portuguese in the east. A map from 1502, of which this is a facsimile, shows the line clearly at what seems to be approximately 60° west longitude. In South America, Brazil is on the Portuguese side of the line, while in the north, Newfoundland is labelled Terra del Rey de Portuguall *(Land of the King of Portugal).*

which he found in the west. Fernandes was a native of the island of Terceira in the Azores; he was referred to as a *lavrador*, an Azorean title meaning that he was a small landholder. He appears to have had some commercial connection with the English port of Bristol, and through his acquaintances there, was probably kept abreast of the results of the Cabot voyages. Through his Bristol connections he may also have picked up Icelandic stories of Greenland, for that was where he headed his ship in 1500.

The results of Fernandes' voyage are known only from inscriptions on early sixteenth-century maps. A Portuguese map drawn in 1502 for an Italian envoy named Alberto Cantino contains a reasonable depiction of southern Greenland. Beside this configuration, an inscription states that, "This land was discovered by order of the very excellent Prince Dom Manoel, King of Portugal, which it is believed is a point of Asia. Those who discovered it did not land, but they saw very rugged mountains, whence, according to the opinion of cosmographers, it is believed to be the peninsula of Asia." On other maps of the time, the Greenland configuration is labelled *Terra Laboratoris* or *Terra Laurador*. An inscription on a 1527 map states that the Land of the Labrador "was discovered by the English of the town of Bristol. They gave it that name because he who gave them directions was a lavrador of the Azores."

This inscription seems to confirm that after his voyage to Greenland, Fernandes returned to Bristol rather than to the Azores, and formed an exploration consortium with certain merchants of that city. In 1501, Henry VII issued letters patent to a group of merchants from Bristol and the Azores, among them Joao Fernandes. This letter, and a second in 1502, granted exclusive licence to trade and exploit newly discovered lands in the west, but with the proviso "always that they in no wise occupy themselves with nor enter the lands...first discovered by the subjects of our very dear brother and cousin the King of Portugal."

Lisbon in 1572. Supposedly founded by Phoeniceans at the mouth of the Tagus, the city was in the hands of the Moors from 716 to 1147. During the fifteenth century, Lisbon saw a period of fabulous prosperity, as the centre of Portuguese maritime exploration and colonial enterprise.

The results of the Bristol/Azorean exploration syndicate are not known. They probably did not return to Greenland, which had been rediscovered under Fernandes' Portuguese licence of 1499, and thus would have been excluded under the terms of his English licence. We may suspect that they explored further to the south, in the vicinity of Cabot's New Found Land. In fact, in 1502 King Henry granted pensions of 10 pounds to two of the Azoreans in the syndicate, for service "as Capitaignes into the newe founde lande." Over the next few years, the King's accounts show payments to several individuals going to the New Found Land, or who brought back royal presents of bows and arrows, birds, animals, and even three men kidnapped "out of an Ilande founde by merchauntes of Bristow forre beyonde Irelonde." This list includes payment in 1505 of 100 shillings "To Portyngales that brought Popyngais & catts of the mountaigne with other stuf to the king's grace," suggesting that an English/Portuguese syndicate may have operated out of Bristol for several years.

Joao Fernandes did not receive a pension from the English crown, nor is he mentioned in the letters patent granted to the syndicate in 1502. In fact he is not heard from again, and we can guess that he may have been lost during the western voyage of 1501. Fittingly, however, he is commemorated in the geography of Atlantic Canada. The "Land of the Labrador", the name originally given to Greenland, was soon shifted southwestward to apply to the rugged coast between the Strait of Belle Isle and Hudson Strait, which may have been the area explored by "the labrador" in his 1501 voyage from Bristol. It is both interesting and appropriate that five centuries later, his title is still preserved in the common speech of Labrador and Newfoundland, where the territory is never referred to as simply Labrador, but unfailingly as "The Labrador."

The Corte-Reals

In the same year that Joao Fernandes was rediscovering Greenland, another Azorean expedition set off to the New World. This voyage was led by Gaspar Corte-Real, son of the governor of Terceira and the man who was rumoured in later accounts to have, himself, made a pre-Columbian voyage to North America. Of the 1500 voyage, we know only that Corte-Real discovered a cool land with large trees which he named *Terra Verde* (Green Land), and that this land lay at about 50^{0} North latitude, in about the position of Newfoundland. The coincidence of the name and location of Terra Verde with the *Illa Verde* of the Milan chart drawn 20 years earlier is striking, and perhaps gives another hint of earlier Portuguese knowledge of the Newfoundland area.

The following year Corte-Real led an expedition of three ships to Terra Verde, where he carried out the first European slave raid in the region, capturing 57 men and women. Pietro Pasqualigo, the Venetian ambassador in Lisbon, wrote that the men "will be excellent for labour, and the best slaves that have hitherto been obtained." He also noted that the natives possessed a portion of a gilt sword of Italian manufacture, and that one boy wore silver earrings from Venice. The people were probably Beothuk Indians from Newfoundland, and their possessions may have included objects obtained from the second Cabot expedition, or from other unrecorded European voyages to the area.

Having ranged the coast for an unknown distance, Corte-Real sent two ships home and continued the exploration himself. He was never heard from again, and is assumed to have perished. The same fate awaited his brother Miguel, who led a search expedition in 1502. Thus ended the explorations of the Corte-Real family, but as a result of their voyages a new coast began to appear on European maps, where it was labelled *Terra Cortereal* or *Terra del Rey de Portuguall*, the Land of the King of Portugal. This new land had several Portuguese placenames, names that are still in use today along the eastern coast of Newfoundland. As ambassador Pasqualigo noted, in describing the fish, timber and slaves of the newly discovered coast, the Portuguese king "intends to draw great advantage from the said land." This intention was reflected in the fact that, for the next generation, the Portuguese led the way in developing the exploitation of Atlantic Canada.

The artist has based this image of a Beothuk warrior on the Indian in war dress who appears on the Arms of Newfoundland, designed in 1637. The archer wears wooden armour and carries a large shield.

The Cape Breton Colony

Although it is clear that European activities in the northwestern Atlantic increased markedly through the first quarter of the sixteenth century, very few records survive to document individual voyages or enterprises. The importance of Portuguese activities is reflected chiefly in the predominance of Portuguese placenames on maps of the period. Many of these names survive today, documenting early Portuguese exploration and use of the area.

A scattering of records, however, relates to the activities of a Portuguese gentleman who apparently explored and established fishing enterprises in Nova Scotia around 1520. A mid-sixteenth century Portuguese map labels Nova Scotia "*La Terra doo Laurador que descobrio Joam Aluerez*" (the Land of the Labrador discovered by John Alvarez). The "Land of the Labrador" seems to have been a movable entity, applying to any land where a Portuguese made the first discovery. Alternately, it has been suggested that the name was used in order to strengthen the case that this land lay in Portuguese territory rather than on the Spanish side of the Treaty of Tordesillas demarcation line. The name of the Bras d'Or Lakes, the central feature of Cape Breton Island, probably originated from such a usage. Joam Aluarez is almost certainly Joam Alvarez Fagundes, a ship captain from Vianna in Portugal, who was granted a patent by the Portuguese king in the year 1521.

Fagundes had apparently already made a voyage along the southern coast of Newfoundland, and perhaps through Cabot Strait into the Gulf of St. Lawrence, naming several islands which he had discovered. Scholars have identified these islands with various islands which exist today between Nova Scotia, Sable Island and eastern Newfoundland. The only convincing identification, however, is Fagundes' "*ilha de Pitiguoem*" with what are today known as the Penguin Islands, lying 20 kilometres off the southwestern coast of Newfoundland. The penguin of the sixteenth century was the now-extinct Great Auk, a bird vulnerable to human predation which could exist only on isolated offshore rocks that were rarely or never visited by canoe-borne aboriginal hunters. Since several of the named islands were west of Penguin Island, this identification places Fagundes in the general Cape Breton-southwestern Newfoundland region prior to his 1521 receipt of royal letters-patent. The map legend cited earlier may have truthfully named him the discoverer of Nova Scotia.

How Fagundes used his royal licence is a more obscure problem. One of the very few documents which mention him simply states that, "Joam Alvarez Fagundes discovered Terra Nova, or the country now called Cape Breton, which the king granted to him, and where he established cod fisheries which became a large source of profit to Portugal...." Another document, dating from the late sixteenth century, tells of a venture carried out between 1520 and 1525 by "certain gentlemen of Vianna"; since Fagundes was a native of Vianna, we may assume that he was associated with this enterprise. The story involves two shiploads of settlers who attempted to establish a colony in Newfoundland, almost certainly a shore-station to be used for drying salt-cod. Finding the area too cold, they settled on another coast to the west:

The Portuguese began the slave trade in Canada. In 1501 Gaspar Corte-Real's crew captured 57 men and women from Terra Verde, *to be sold as slaves; the people were probably Beothuks from Newfoundland. Seven years later, the French captain Thomas Aubert followed the Portuguese example by abducting a group of Beothuks to Dieppe.*

This pendant of carved and polished bone came from a Beothuk grave. "Beothuk" is the name given to themselves by the First People of Newfoundland, who have been extinct for over 150 years.

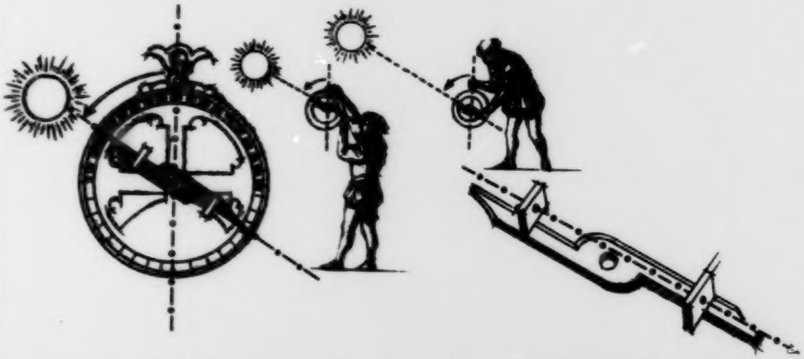
> *And as they had lost their ships, nothing further was heard from them, save from the Basques who continue to visit that coast in search of the many articles to be obtained there, who bring out word of them and state that they asked them to let us know how they were, and to take out priests; for the natives are submissive and the soil very fertile and good.... This is at Cape Breton, at the beginning of the coast that runs north, in a beautiful bay, where there are many people and goods of much value and many nuts, chestnuts, grapes and other fruits, whereby it is clear the soil is rich.... May the Lord in his mercy open a way by which to succour them.*

The location of this colony, the first attempt by sixteenth-century Europeans to establish a land base in North America, is not known. The primary clue comes from the report quoted above, which suggests the eastern coast of Cape Breton Island as the most likely locality. Another support for this interpretation appears on several Portuguese maps drawn after 1550. Most of the place-names on these maps are in Portuguese or French, except for a set of five along the eastern coast of Cape Breton Island, which seem to be Micmac.

The familiarity with local Indian place-names most likely occurred during the existence of the Portuguese colony in the area. The

Early Navigation

The mediaeval Irish monks, who pioneered navigation between the islands of the far North Atlantic, may have trusted in divine guidance to take them to their appointed destination. Undoubtedly, however, they were practical enough to have used other aids as well. We know that they kept records of the direction and distance (measured in sailing-time) to various destinations, and offshore navigation must have been guided primarily by crude astronomical observations. They had no instruments to measure precise directions according to the sun and stars, or to gauge the altitudes of heavenly objects in order to calculate their position. Nevertheless, a practiced eye could probably steer fairly accurately by the sun or the pole star, and assess the north-south position quite closely by the elevation of these objects above the horizon and by the length of the summer night.



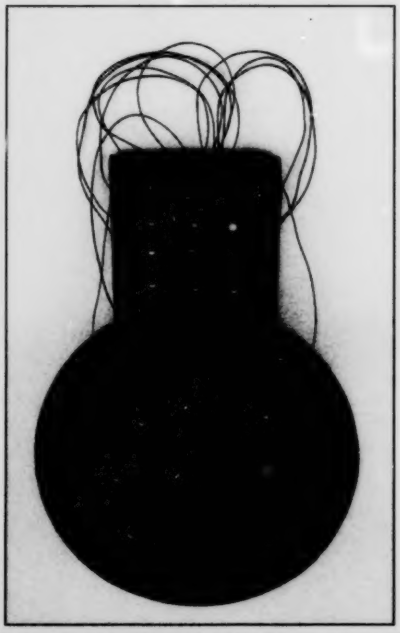
Sailors could find their latitude at sea by measuring the height of the North Star or the noon sun above the horizon. The mariners' astrolabe was a circular bronze plate with a scale engraved around the edge, and a bar with peep-holes (the alidade) mounted on a central pivot. In use, the astrolabe was suspended from a pivot, and the alidade rotated until the star could be seen through the peep-holes, or until the shadow of the sun lay directly along the edge of the alidade. The angle of the alidade was then read from the scale on the astrolabe.

They must also have been guided by the many signs still used today by fishermen and other offshore mariners who work from small boats: the direction of wind and wave, the colour and temperature of water, and the sea-life which is so apparent to small-boat sailors. Landfalls after voyages of longer than a day or two must have been largely dependent on such signs: shore-nesting seabirds, the sea mammals which concentrate in the shallow water around islands, and weed or wrack from nearby beaches. When all else failed, a trust in God probably brought most mediaeval boats ashore, although probably often to different shores than those to which they were directed. Such voyages must have been the chief means by which new islands were discovered.

The Norse who followed the Irish to Iceland, and then continued to Greenland and North America, did so with very little more navigational equipment. They had crude gauges of latitude, calculated by measuring the shadow of a pin mounted in the centre of a graduated disk, or the shadow of a gunwale across the thwarts of a boat, and could probably maintain a fairly constant latitude in crossing the seas from east to west. Some have claimed that the Norse also used a *solarsteinn*, a small crystal of polarizing feldspar which allowed them to assess the position of the sun on cloudy days; such a piece of equipment was probably much less useful than would be suggested by the amount of argument over whether or not the Norse did use such stones. The Norse probably did not use charts, but probably had a mental picture of North Atlantic geography, augmented by verbal sailing directions. One set of such directions states:

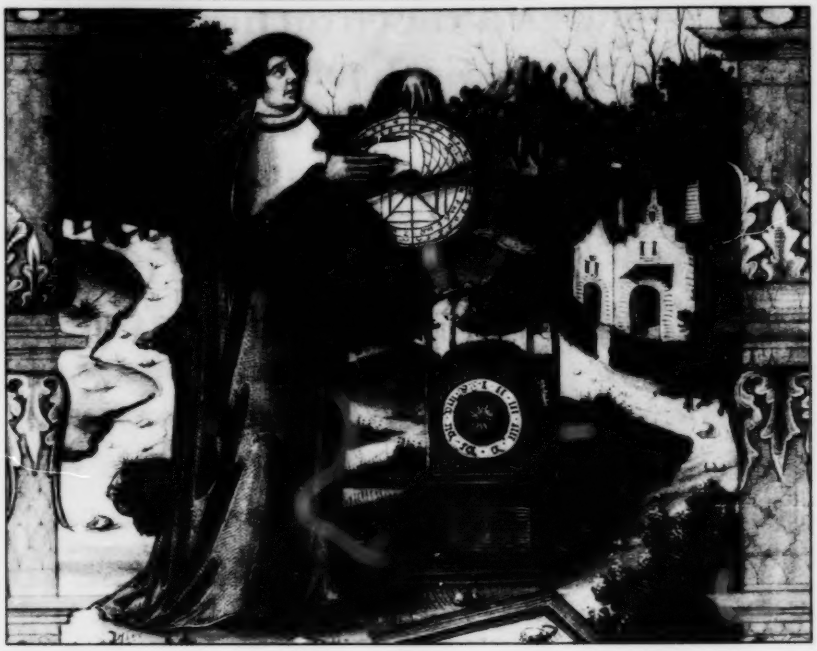
> *According to learned men.... from Hern Island in Norway, one can sail due west to Cape Farewell*

When tacking against the wind, a mariner used a traverse board to keep a record of distance sailed on each course. The board was a wind-rose, on which a wooden peg was placed for each half-hour of sailing in a particular direction. (Length: 40.8 cm)



(the southern tip of Greenland), passing north of Shetland so far that you can just see it in good weather, and south of the Faeroes at a distance so that the sea appears half-way up the mountains, and south of Iceland at a distance that one sees only the birds and whales from it.

Such directions seem to have been quite adequate for crossing the North Atlantic from Norway to Greenland for four centuries or more. By the fifteenth century, when Europeans once again began to systematically explore the Atlantic, they did so with several navigational instruments which had recently been introduced. Most important was the compass, a magnetized iron needle floated in a bowl of water, suspended on a fine cord, or mounted on a pivot so that it is free to align itself with the magnetic field of the earth. The Chinese may have used magnets as divination devices or in geomantic calculations for several centuries, but the first known record of a magnetized needle being used for navigation at sea dates from only about A.D. 1100. The first European record of compass use appears almost a century later, and it is generally assumed that the instrument was introduced to Europe by Arabic or Persian traders from the Far East. Over the next couple of centuries, the Italians are given credit for developing a reliable and useful instrument from what must have been originally a generally erratic curiousity. Even sixteenth-century navigators had little understanding of magnetic declination (the variation between magnetic north and true north, which changes around the world and through time as the position of the magnetic pole changes).

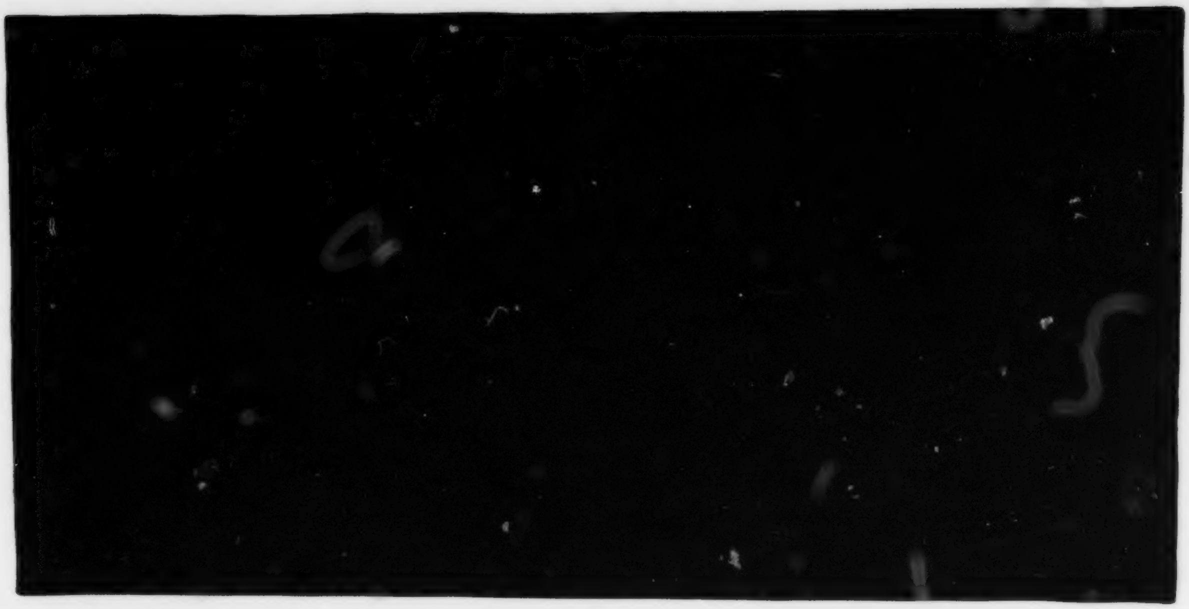


The astrolabe was originally an Arabic instrument, used by astronomers to study planetary motions and by astrologers to calculate horoscopes. The astronomical astrolabe was much heavier and more complex than the instrument used by sailors.

Another introduction from the east was the astrolabe (an Arabic word and probably an Arabic invention). The astrolabe was the primitive forerunner of the mariner's sextant, but was a great improvement over earlier instruments. With patience and luck, a mariner could now calculate his latitude to within one degree (110 kilometres), and much of the early mapping of the New World was based on astrolabe sightings. By the late sixteenth century the astrolabe was being replaced by the more accurate cross-staff, a closer approximation to the sextant. Still, an astrolabe was carried by Samuel de Champlain on his explorations of eastern Canada. A small bronze astrolabe manufactured in 1603, which was found in the Ottawa Valley during the nineteenth century and thought by some to be Champlain's instrument, is now prominently displayed in the Canadian Museum of Civilization. In the well-known statue of Champlain on Ottawa's Nepean Point, the explorer is sighting the sun through this astrolabe. Unfortunately for historical accuracy, he is holding the instrument at arm's length and upside down, as if using a sextant: astrolabes were suspended from a swivel, and held below eye-level.

Even with astrolabes and cross-staffs, early mariners had no method of precisely calculating their longitude — their position east or west of any other point. This had to be estimated from reckonings of ship speed and direction, and many early estimates were remarkably innacurate. This explains why, on many early maps, north-south measures are reasonably accurate, while there are major distortions in east-west directions.

Still, the development of maps and the accompanying rutters (lists of sailing directions from one point to another) were a major advance in the development of navigational abilities during the Age of Exploration. By the end of that period, cartography was becoming a precise science, and was beginning to develop the first recognizeable pictures of the world as we know it today.



This section of a Portuguese atlas from 1519 records the explorations of the Corte-Reals. Above the coast of Newfoundland, which is not shown as an island, the inscription Terra Corte Regalis *is accompanied by two Portuguese flags. The legend at the left states that "Corte-Real passed through this region, first discovered it and gave it his name."*

"beautiful bay" where the colony was located has confidently been assigned to various locales between the Strait of Canso and Ingonish on the northeastern coast of Cape Breton. I personally prefer Mira Bay, a pleasant inlet midway between what are now Glace Bay and Louisbourg, and the first large bay after the coast "turns north" at Cape Breton. It has also been suggested that one of the five early map names, *Xoracadie*, is derived from the Micmac name (Soolacadie) for Mira Bay. A pleasant summer could be spent searching the shores of Mira Bay for the archaeological remains of this first sixteenth-century colony in North America.

The Colony Abandoned

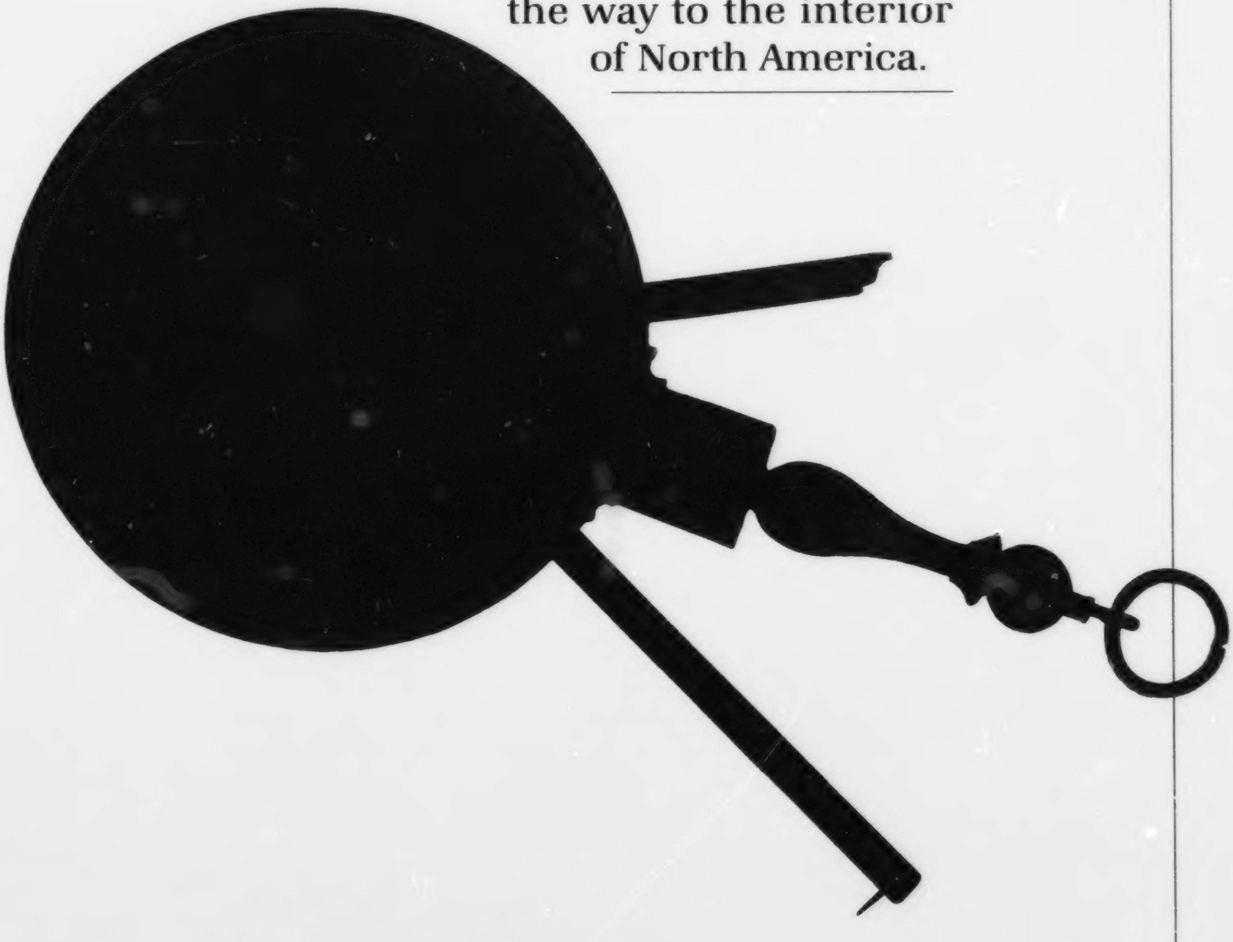
Wherever it was located, the Portuguese settlement on Cape Breton Island seems to have existed for only a few years. It was probably abandoned because of the hostility of the Indians who owned the local lands and turned out to be less submissive than first reported. One account states that, "Formerly the Portuguese sought to settle the land [Cape Breton]..., but the natives of the country put an end to the attempt and killed all of those who came there." Like the Norse attempt to establish a colony in Vinland five centuries earlier, and like Cartier's Québec colony 20 years later, or Raleigh's first Virginia colony 60 years later, the Portuguese could not maintain a European settlement in the face of native hostility.

With the loss of the Cape Breton colony, sixteenth-century Portuguese fishing interests seem to have concentrated on ship-based operations, working the offshore banks and sailing home with their salted catch. The "White Fleet" of Portuguese banking ships, whose periodic visits to the port of St. John's provided a notable tourist attraction until the past decade, are the descendants of these early efforts at fishing and exploration. The Portuguese trawlers which still work the Grand Banks are rusty reflections of a time when the Portuguese were the leading explorers and developers of Atlantic Canada.

CHAPTER 8

FROM ACADIA TO CAIN'S LAND

The French were relative latecomers to New World exploration. Yet two of their explorers, Verrazzano and Cartier, made important additions to the discoveries in the west. Their explorations opened the way to the interior of North America.



This sixteenth-century brass nocturlabe, or "star-dial," was used to calculate time at night. While viewing the North Star through the peep-hole, the observer moved the arms to coincide with certain stars in the constellations of the Little and Big Dipper. (Length: 25.5 cm)

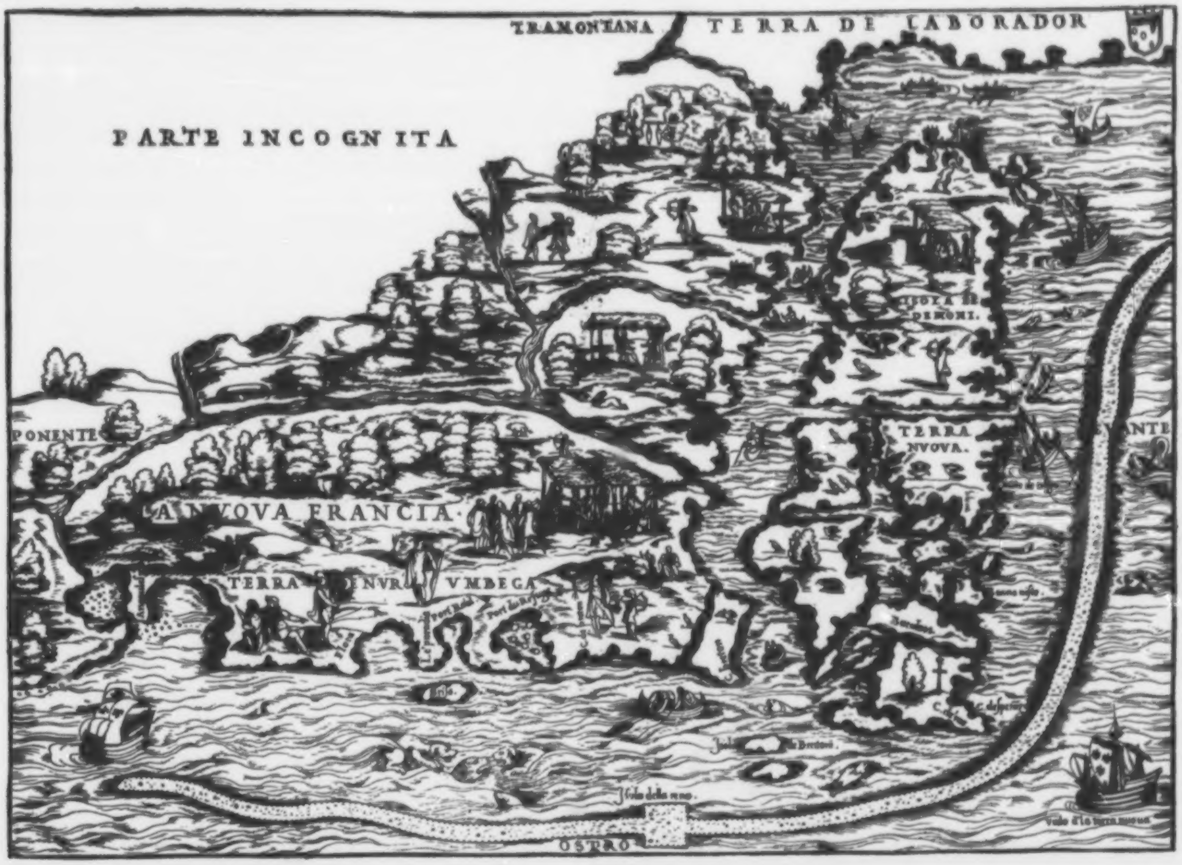
A quarter-century after the voyages of Columbus and Cabot, when Cortes had conquered Mexico and the Portuguese had established a colony in eastern Canada, the French king had yet to send an official voyage of exploration to the New World. This was not due to a lack of maritime skill on the part of the French, for Norman and Breton fishermen had been quick to join the English and Portuguese on their annual ventures to the Newfoundland fishing banks in the early sixteenth century. It may have been due simply to lack of royal interest in western exploration, or to the energies required to defend France's land borders and to participate in European wars.

In addition, France's Mediterranean coast placed the nation in an excellent position to exploit the trade in Oriental goods coming to Europe from North Africa and the Near East. Consequently, French merchants were probably less interested in a western route to the Orient than were those of Atlantic-facing nations such as Britain and Portugal.

It may also be significant that the French requirements for fish had traditionally been satisfied in home waters, and that they had not been heavily engaged in the Icelandic trade for dried codfish. The French were therefore outsiders to the Portuguese-English-Icelandic trade which seems to have been an important stimulus to the search for islands and countries in the western ocean. Rather surprisingly, but perhaps for the same reason, there has never been a serious effort to consider pre-Cabotian discoveries of western lands by the French, as there has been for the English and Portuguese.

Nevertheless, there are hints that vessels from western France, and especially from Brittany, were active in the early years of western exploration and the beginnings of the Newfoundland fishery. A Breton church document

Small pivot-guns, firing stone or metal bullets, were the commonest armament of ships of exploration. On his first voyage, Cartier fired two rounds from such guns to warn off the canoes that surrounded his ship in the Baie des Chaleurs.



This map of New France, drawn by Gastaldi and published in 1556, takes no account of Cartier's voyages 20 years earlier. The map is obviously based on the 1524 explorations of Verrazzano along the east coast of North America, and shows several place names, such as Angoulême *(New York Bay) and* Port de Refuge *(Narragansett Bay) given by Verrazzano. The many indentations of the Newfoundland coast fooled many early cartographers, who showed the island as an archipelago.*

dating from 1514 deals with a tithe on fish taken by local fishermen, for up to sixty years in the past, from the coasts of Brittany, Newfoundland, Iceland and elsewhere. Early sixteenth-century maps identify Cape Breton Island as "Land of the Bretons" or "Land discovered by the Bretons"; attempts to explain that "Bretons" was a mistake for "Britons" and that the land was actually named for its discovery by John Cabot, are not at all convincing. The French historian André Thevet, writing in 1575, noted that Newfoundland had been officially discovered by Corte-Real but that ships from La Rochelle had been there 14 years earlier. In the absence of confirmation, or of any known sources for this information, the vague claims of early French discovery have generally been ignored.

Two New Worlds

By the early 1520s, after 30 years of exploration, European knowledge of the New World was still fragmentary, and consisted of two very different geographical entities. In the south, at about the latitudes of northern Africa, lay New Spain, consisting of Florida, the Caribbean islands and Mexico to the west. It appeared to be continuous with the continent of America, which stretched far southwards to the Strait of Magellan. New Spain and America were lands of gold, silver, logwood, slaves, and agricultural crops unknown in the Old World.

Far to the north, at about the latitudes of the British Isles and northern Europe, lay a separate New World, a land of ice, codfish and rocky islands. This was the territory known to the English and Portuguese as the New Found Land, Baccalaos or the Land of Cortereal. Further north, but part of the same territory and thought to be either joined to the New Found Land or separated from it only by narrow straits, lay the Land of the Labrador and the ancient European country of Greenland.

The Spaniard Ponce de Leon had landed in Florida in 1513, in search of the Fountain of Youth placed there by Caribbean Indian tales, but Spanish exploration had extended no farther north. The English and Portuguese, who were primarily fishermen interested in the bounty of the Newfoundland and Nova Scotia fishing banks, had not ventured very far south of the Bay of Fundy. New Spain and the New Found Land were separated by about 15 degrees of latitude, over 1,500 kilometres. Were the two countries part of a single great continental landmass, or were they separated by an ocean through which one might sail directly to the Orient? Neither the gold-seeking Spanish nor the fishermen of England and Portugal had bothered to investigate this question, and the necessary exploration was finally undertaken by a mariner sailing from France.

Verrazzano's Voyage

French interest in the New World quickened in 1523, when the merchants of Lyons brought the navigator Giovanni da Verrazzano to the attention of the king of France. Like Columbus and Cabot, Verrazzano was an Italian and had probably learned the theory and skills of navigation in the schools of Italy. He had also gained considerable practical experience in Atlantic sailing from French ports, and had probably made at least one voyage to the Newfoundland fishing banks. His patrons saw in him a man who could explore and develop a direct westward sailing-route to Asia, a route in which other European kingdoms seemed to have lost interest at this time.

In order to accomplish this plan, Verrazzano was outfitted in the autumn of 1523 with a French naval vessel, *La Dauphine*, and three smaller ships chartered by his financial backers. After weathering a heavy storm, and engaging in some successful piracy against Spanish ships along the western coasts of Europe, the three merchant vessels turned back and only *La Dauphine* continued to the New World. The route chosen by Verrazzano was somewhat north of the one used by Spanish ships. He left land at the island of Madeira, and after sailing westwards into the Atlantic for about six weeks, made landfall on the coast of what are now the Carolinas. He first sailed southward for a distance, hoping to explore as far as the known coasts of Florida, but at the same time wary of meeting Spanish rivals. Then, turning northwards, he began the long three-month voyage which would result in exploration of the entire eastern coast of the United States.

His first major discovery was a body of water that Verrazzano interpreted as a western sea, obviously the ocean which washed the shores of China, and separated from the Atlantic by a narrow strip of land only a kilometre or so wide. *La Dauphine* followed the shores of this isthmus for a hundred kilometres or more, anticipating but never finding a gap through which they could pass. The only geographical feature on the modern map which matches this description is the Outer Banks of North Carolina, a sandy isthmus stretching northward from Cape Fear to Cape Hatteras and beyond, and separated from the mainland coast by distances of up to 40 kilometres. Verrazzano's "Western Ocean" was nothing more than the shallow waters of Pamlico Sound, lying off the low and swampy coast of North Carolina.

Verrazzano's next discovery was a land of beautiful forests and handsome people, which he named "Arcadia" after the idealized pastoral countryside of ancient Greece. His crew marked their discovery of this wonderful land, inhabited by apparently peace-loving people, by kidnapping a child. The name Arcadia itself soon disappeared from New World geography, but was transformed by later mapmakers to "Acadie," and moved north to identify the early French settlements of what are now Canada's Maritime Provinces.

After sailing for some 400 kilometres along the low and generally featureless coasts from North Carolina to New Jersey, Verrazzano entered a broad and pleasant inlet fed by a large river, which can be confidently identified as New York Bay. After anchoring overnight in what is now the Verrazzano Narrows, and encountering Indians who appeared to be friendly, he continued northwards along the coast and next entered Narragansett Bay in what is now the state of Rhode Island. Here *La Dauphine* remained for two weeks while the crew rested, explored the surrounding countryside, and got to know the local Indians. The appearance and character of these people greatly

Fishermen from the French port of La Rochelle began to visit Newfoundland waters at an early date. In the late sixteenth century, the historian André Thevet even suggested that Rochellais ships had discovered Newfoundland as early as 1486. Exploring the Gulf of St. Lawrence in 1534, Jacques Cartier encountered a fishing vessel from this port.

impressed the visitors, and there is no mention of further kidnappings.

Verrazzano's next encounter with Indians occurred on the coast of Maine, or possibly on the Atlantic coast of Nova Scotia, and was quite different: these people greeted the explorers with jeers and arrows. Although their language could not be understood, they were doubtless shouting that they had met Europeans before and had not appreciated their behaviour in kidnapping or pillaging harmless people. Verrazzano named this area the "Land of Evil People," and quickly left.

Another land was named by Verrazzano, but its location is unclear and known only from later maps, some of which extended it to include all of the country from Cape Cod to the Gaspé. This land, under various spellings, was called something like "Norumbega." The name seems to have been derived from an Algonkian Indian language, and over the following decades it was elaborated by cartographers and armchair explorers into a city of great civilization and wealth, located somewhere in the hinterlands around the Bay of Fundy. However, Verrazzano cannot be blamed for the creation

The Image of Asia

To the scholars of mediaeval Europe, the world reflected the nature of its creator, in that it was divided into three parts: Europe, Africa and Asia. Jerusalem, at the meeting-place of the three continents, stood at the centre of the world; Europe was the home of Christianity; Africa, the hot and heathen southern continent, was little known and little considered. Asia was the home of the infidel Moslems who contended with Christendom for possession of the Holy City and the Holy Land.

But beyond the realms of Islam, Asia was regarded as a much larger and more mysterious continent, known primarily from legend. It encompassed the tribes of Gog and Magog, evil peoples whom Alexander the Great had locked into the Caspian Mountains, from which they would escape in order to help bring about the end of the world. It also included the kingdom of Prester John, a mysterious Christian sovereign who ruled a distant land, rumours of which may have had their origin in the Nestorian Christian communities of India and central Asia.

Three political events of the later Middle Ages brought Europeans a closer knowledge of Asia. The first was the expansion of Islamic Arabic civilization westward across North Africa and northward into Spain; this served as the medium for transmitting to Europe not only Arabic knowledge of science and geography, but also the geographical knowledge of the Classical world, as it was preserved in the libraries of Alexandria and other centres of learning. The second event was the Crusades, and the establishment of European crusader kingdoms in the Levant, through which Europeans became familiar with, and developed a taste for the silks, spices and other luxury goods of Asia. Finally, the "Mongol Peace," which followed Mongol conquests of all territories between China in the east and Poland and Hungary in the west, allowed Europeans overland access to the far east for over a century.

Knowledge of the Mongol kingdoms and their eastern tributaries began with the missions of Giovanni Carpini and William of Rubruck, sent in the 1240s and 1250s as emissaries of the Pope to the Mongol Khan. Church travellers were soon followed by merchants, including Marco Polo, who between 1271 and 1295 travelled widely and saw India, Southeast Asia and other lands previously unknown to Europeans. His descriptions, including that of the fabulous island of Cipangu (Japan) which lay far east of Asia and whose temples and palaces were roofed with gold, reached a wide and enthusiastic audience in Europe.

During the first half of the fourteenth century, Italian merchants established themselves along the caravan routes across central and eastern Asia. Christian missionaries travelled the silk roads, and there was even a Christian archbishop of northern China. Asiatic products poured westward to the merchant cities of northern Italy, whence they were very profitably distributed throughout Europe. Yet after barely a half century of operation, these trans-Asiatic trade routes broke down rapidly after about 1350. The first reason was the 1347 arrival of the Black Death in Europe, and the subsequent death of over 30 percent of the European population. The plague disrupted economic activity, and also curtailed trade along routes where travellers were now treated with suspicion and hostility. Political events also contributed to the breaking of the transcontinental trade routes: the 1368 Ming uprising which overthrew the Mongol dynasty of China; the conquests of Tamerlane from northern India to Syria; and finally, the growth of Ottoman Turkish power in western Asia, which severed the trade links of the Levant.

of this legendary city of wealth, which appears merely to have developed from a place name which he brought back to Europe. The legend of Norumbega gradually died out, as continued exploration failed to confirm its existence.

Verrazanno's exploration of unknown territory was now completed. Sailing on to the northeast in stormy weather, he soon found himself in known territory on the coasts "discovered by the Bretons." Having proved that New Spain and the New Found Land were indeed two parts of a single great northwestern continent, Verrazzano departed the New World and made a quick voyage home to France.

Verrazzano arrived in Europe to find the French king distracted from exploration by a new war. The samples of New World products which he had gathered were considered to be of little value, and no commercial interest could be found to capitalize on his discoveries. Finding private backers, Verrazzano made a commercial voyage to Brazil, then a second one to the Caribbean, where he was killed by natives. Neither the French state nor French merchants made any move to exploit the coast Verrazzano had discovered, a coast which in following centuries would become the centre of New World development and wealth.

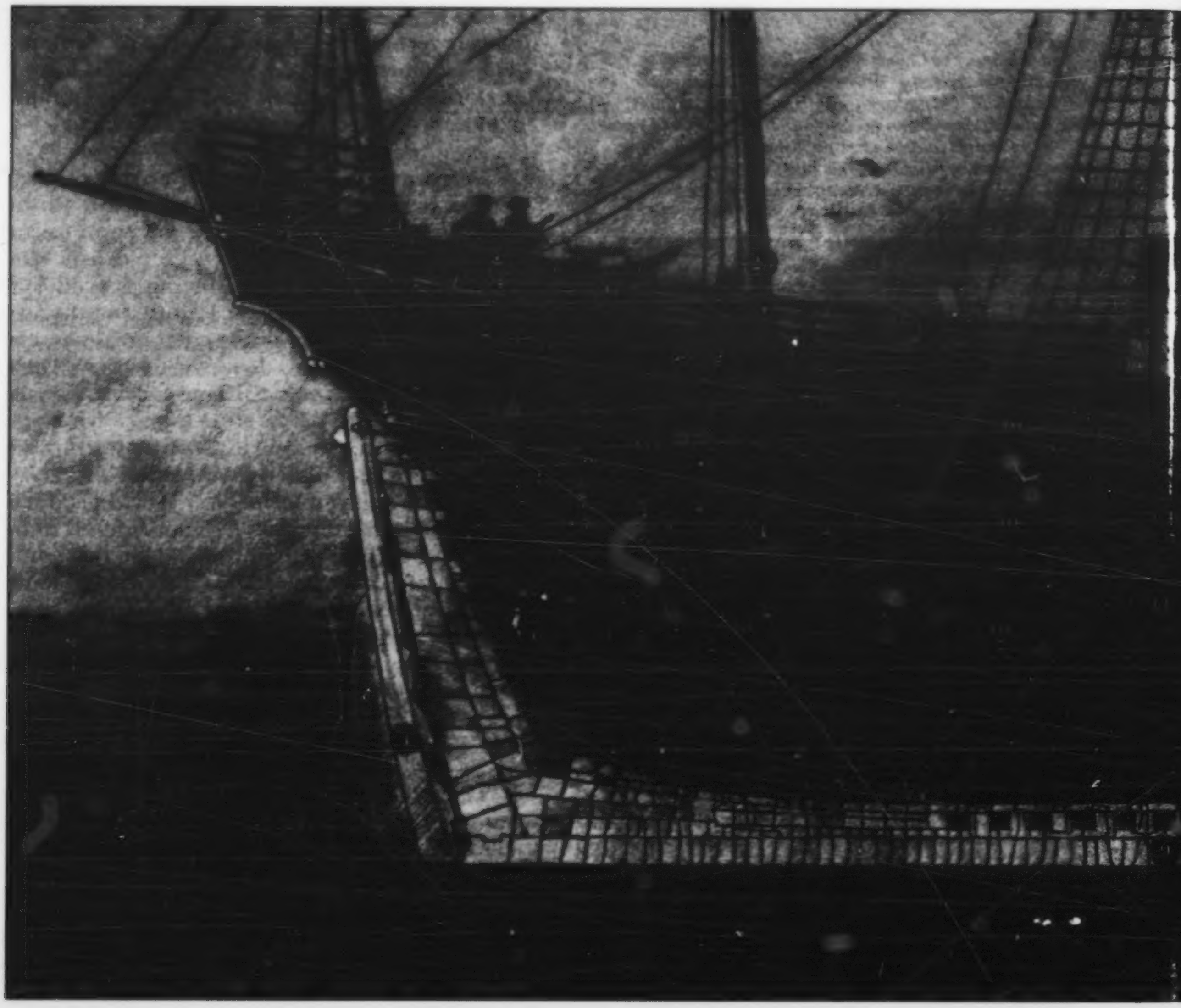
French Fishermen in the Gulf

Ten years after Verrazzano's voyage, official French interest in New World exploration was revived. We can only guess at what caused the revival, but it seems likely that it followed unofficial and unrecorded discoveries made by French fishermen in what is now the Gulf of St. Lawrence.

In 1522 the survivors of Magellan's first circumnavigation of the world had returned to Spain; Europeans now knew that the Orient lay far to the west of the New World, but could be reached by water if a passage were found through the newly discovered American continents. Magellan's voyage had shown that the route around the southern tip of South America was long, stormy and generally impracticable for the ships of the time. Spanish and Portuguese explorations in the south had proven that there was no western passage between Florida and the Strait of Magellan, while Verrazzano had failed to find such a passage between

On his way to China with his father and uncle, Marco Polo arrived at Hormuz at the entrance to the Persian Gulf. This miniature is from the 1375 edition of the Book of Marvels*, an account of Marco Polo's 25 years of travels in Asia. First published in 1299, its descriptions of fabulous lands inflamed the imagination of Europe. Columbus carried a copy of the* Book of Marvels *on his 1492 voyage.*

The travellers of the thirteenth and early fourteenth centuries had brought Asia into European consciousness, but the eastern continent was still regarded as a distant, mysterious and fabulously wealthy land. The period had also established a major European market for Oriental spices and other luxury goods. The late fourteenth century interruptions in the supply of such goods, and control of Oriental trade by the Sultan of Turkey, provided the necessary commercial background to the ventures which, in the following century, saw European attempts to bypass the Turks by establishing sea routes to Asia.

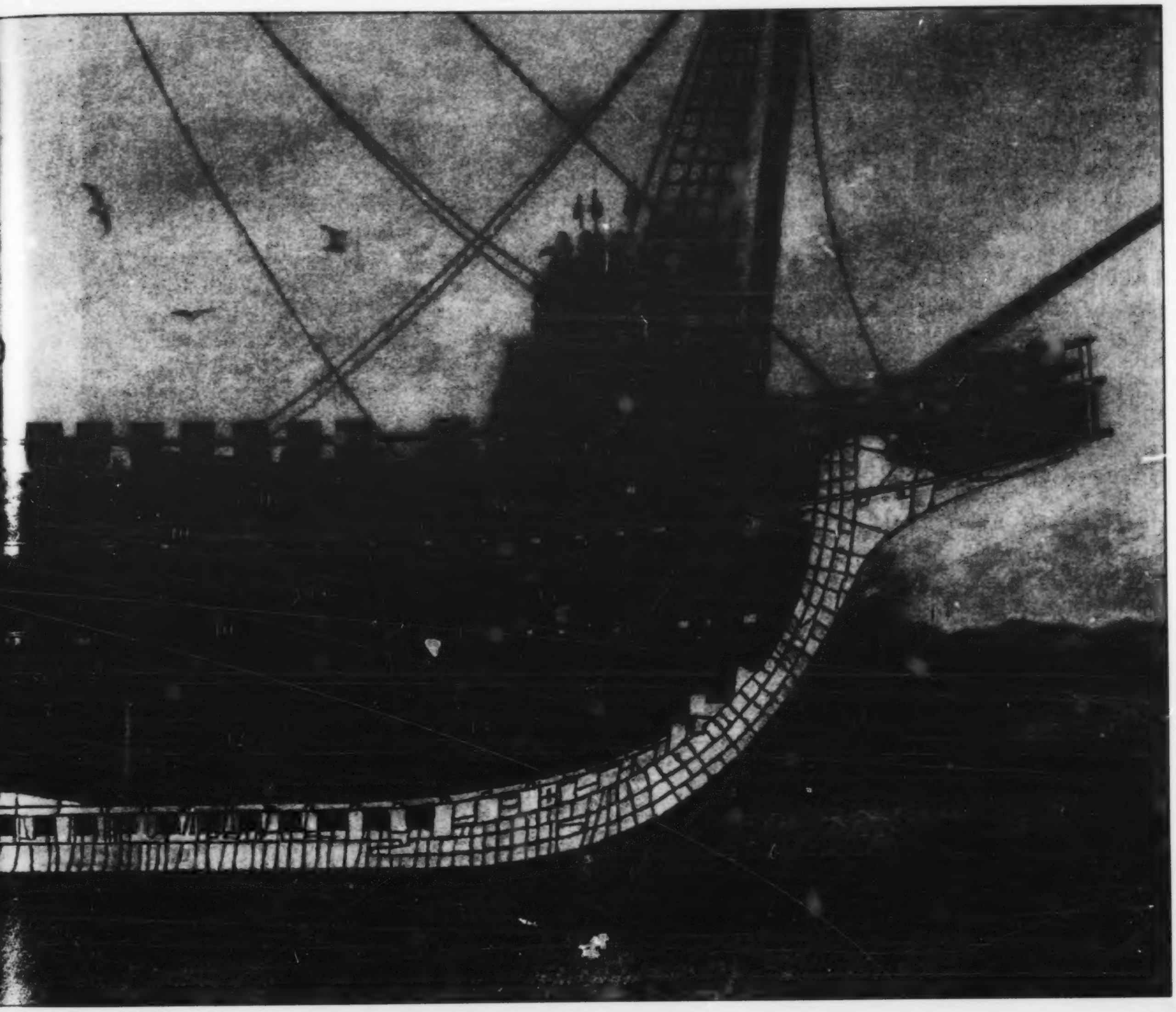


The galleon was the workhorse of the sixteenth and seventeenth centuries. Ships of this type served in voyages of exploration, as cargo-ships in merchant ventures, and in naval battles. They carried the gold and silver of New Spain, as well as the whale oil and dried cod of the New Found Land.

The galleon was an enlarged and improved version of the caravel, with three or four masts and displacement ranging from less than 100 tonnes to over 700 tonnes. Its distinguishing characteristic was an inward inclination of the upper hull, so that the deck was narrower than the waterline width of the vessel. It could sail at eight knots or more, and was a very seaworthy vessel although the high stern-castle caused it to roll considerably. When armed for combat or for protection against pirates, it could carry over 50 cannon and remain stable despite the great weight on the upper deck. For combat, it could carry a crew of about 200 sailors and soldiers.

This model was inspired by an ex-voto in the maritime museum at Madrid, dating from 1540, and by a sixteenth-century Spanish document on shipbuilding.

1• Great cabin
2• Pilot house for the helmsman who handles the whipstaff
3• Tiller
4• Back pieces of the rudder
5• Gun room
6• Powder magazine
7• Well containing the bilge pump
8• Ballast
9• Keel
10• Gratings
11• Capstan to heave up or haul down the sails or mooring lines
12• Store room
13• Sail locker
14• Crew's quarter
15• Riding bitts
16• Ship's boats
17• Galley of the forecastle
18• Range of belaying pins
19• Bowsprit
20• Gammon lashing
21• Fore mast
22• Mainmast
23• Mizzen mast
24• Bonaventure mast



Florida and Cape Breton. Early Portuguese explorations in the vicinity of Greenland, as well as a probable English expedition to Arctic regions led by John Cabot's son Sebastian, had shown that any northern passage was probably blocked by ice-choked seas.

With areas to the north and south having been ruled out, the search for a passage to Asia was now concentrated in the mid-northern latitudes, around Newfoundland. Newfoundland waters were increasingly frequented by European fishermen during the early sixteenth century, but the geography of the area was poorly understood. Fishermen, of course, had little need or interest in mapping the New Found Land; all that they needed was a productive fishing ground, a convenient beach for drying fish, and a clear sailing route home to Europe. Add to this the fogs and storms which characterize Newfoundland waters, and the nature of the coast itself — a confusing series of deep, wide bays, some masked or filled with numerous islands — and it is easy to understand why Newfoundland geography was a mystery in the early sixteenth century.

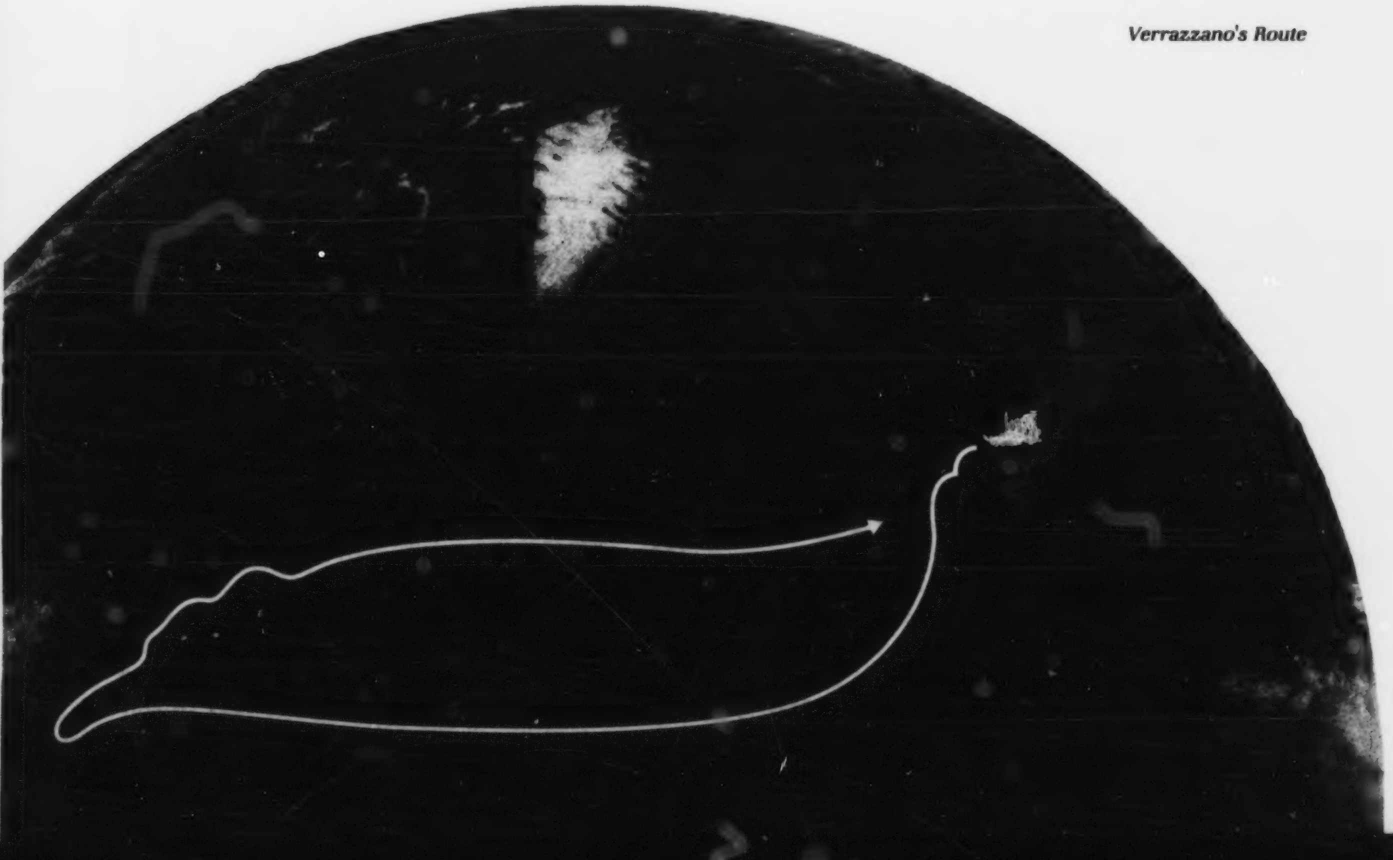
The first known French fisherman to work Newfoundland waters was Jean Denys, who sailed from the Norman port of Honfleur in 1506. According to an English description of the New World, written in verse about 1519, by that time over 100 French ships were making annual voyages to Newfoundland. By the 1530s the French were an important force in the Newfoundland fishery. As this fishery developed, some French fishermen — either more adventurous than their English and Portuguese rivals or, as latecomers, denied access to the best-known fishing grounds along the eastern and southern Newfoundland coasts — began to penetrate previously unfrequented waters. Although they left no records of early discoveries, we know that the first "official" explorers found French fishermen using the Strait of Belle Isle and the northern Gulf of St. Lawrence. It seems likely that the stories of these fishermen, telling of the great gulf "behind" the New Found Land, stimulated official French interest in exploring this potential passage through the New World. The mariner whom the French king chose to undertake this endeavour was Jacques Cartier.

Cartier's First Voyage

Jacques Cartier was a respected native of the Breton port of St. Malo, and was related by marriage to one of the principal families of that town. He was also related to an official of the nearby abbey of Mont Saint Michel, who secured his introduction to François I in 1532. Cartier, who was 41 years old at the time, was introduced as an experienced mariner who had already made voyages to both Newfoundland and Brazil. Although it is not recorded, the introduction may also have suggested that Cartier knew certain secrets about a possible passage through the New World. Such a hint would explain why the king was so easily persuaded to support his first voyage of exploration; it would also explain why Cartier, having obtained the king's support, set an unhesitating course for the hitherto unrecorded Gulf of St. Lawrence.

The organization of a voyage required two years, but eventually the king provided enough money to outfit two small ships, each with a crew of about 30 men, with which Cartier left St. Malo on April 20, 1534. The route to Newfoundland was well known to sailors of Cartier's time, and the two ships made land 20 days later at Cape Bonavista. For the next five weeks, they sailed in known waters: first north in order to hunt great auks on the *Isle des Ouaiseaux* (Funk Islands) off the northeastern coast of Newfoundland, then northwest to the *Hable le Karpont* (Quirpon) on the northern tip of Newfoundland's Great Northern Peninsula, where they waited for ice to clear from the Strait of Belle Isle.

Entering the Strait in early June, Cartier described a number of harbours already named by French fishermen. Some of these names are



Verrazzano's Route

View of Saint-Malo in 1586. When Cartier sailed in 1534, the town had about 5000 inhabitants. For 15 or 20 years it had been a centre for Newfoundland fishing ventures, and cod was an essential part of the town's economy. A document from 1519 states that fish were dried on the shingle beach outside the walls.

retained today, from *Hable des Chasteaulx* (Chateau Bay) in the north to *Blanc Sablon*, just west of the present Québec-Labrador border. Passing Blanc Sablon he visited two other named localities: *les Islettes*, probably the present Brador Bay, where Cartier noted that there was a considerable French fishery, and *Brest* which can perhaps be identified with the present Vieux-Fort Bay.

Cain's Land

Having taken on wood and water, Cartier continued west along a rocky, island-strewn coast to which he began to apply names, apparently under the assumption that it had not been previously explored. Despite his very unflattering view of the newly discovered country, which he described as "the land which God gave to Cain," he nevertheless took the time to set up a cross as an assertion of France's claim of discovery. A few kilometres further to the west, probably in the vicinity of today's Baie de Jacques-Cartier, the explorers were surprised to come upon a large fishing vessel from the western French port of La Rochelle, an indication that the area was not as unexplored as they had thought. By this time Cartier was well over 100 kilometres west of the Strait of Belle Isle, and it must have been apparent from the state of the swells and tides (if not from what he learned from the Rochellais skipper) that they were coasting the northern shore of a large body of water lying to the west of Newfoundland.

Turning away from the northern shore of the Gulf of St. Lawrence, Cartier struck out to the southeast and soon reached the western

Are we present at a kidnapping? We are at Gaspé on Friday, July 24, 1534. Cartier's sailors surround two frightened Iroquois boys, whom they have dressed in French clothing. These are the sons of Donnacona, whom Cartier is taking to Europe. Cartier tried to reassure their worried father "by showing them great signs of affection."

coast of Newfoundland. He followed this coast southward for a distance of approximately 400 kilometres, before heading westward to explore the Magdalen Islands, Prince Edward Island and the mainland coast of what is now eastern New Brunswick. In crossing the Gulf, Cartier was aware of the large swells coming in from the southeast, prompting him to note that there must be open sea separating Newfoundland from Cape Breton. These swells were, of course, coming through the 120-kilometre width of Cabot Strait. This strait may have been explored fifteen years earlier by the Portuguese Fagundes, or perhaps by Gomez, a Portuguese navigator sailing for the king of Spain who explored the coasts from Newfoundland to Florida the year after Verrazzano made his voyage.

Cartier may not have been aware of the earlier discovery of Cabot Strait, but there are indications that he knew he was not the first European to explore the area. The manners of the Indians encountered along the mainland coast, at some place in the Baie des Chaleurs, demonstrated that the European fur trade had preceded Cartier's exploration. These Micmac Indians approached the ship holding animal pelts on sticks, and indicating that they were willing to trade them for European goods. It has been suggested that the Micmac were not only used to dealing with European fishermen, but may have already begun to change their patterns of hunting to emphasize the taking of furs.

Another sign of earlier exploration appears a few days later when, approaching the eastern end of the Gaspé Peninsula, Cartier mentions a point of land named *Cap de Pratto*, either the present Cap Blanc or Cap Percé. The name "de Pratto" is unusual for two reasons; first, Cartier does not follow his usual practice of stating that he named the cape and explaining why he gave it this name; secondly, the name appears to be Spanish or Portuguese (probably *Cabo de Prado*, Cape Meadow) rather than French. This interpretation is supported by the fact that a French translation of such a name (Cap du Pré) appears on French maps dating a few years after Cartier's voyage. It seems likely that this portion of the Gulf of St. Lawrence had seen

Cartier's first voyage, 1534

earlier Spanish or Portuguese exploration (perhaps beginning with Fagundes or Gomez), and that Cartier knew enough about this exploration to use an established place-name.

The Iroquois

At the tip of the Gaspé Peninsula, Cartier encountered a different group of Indians who were, in the following years, to lead him to his major discoveries. These were Iroquoian people whose settlements were in the vicinity of the present Québec City. Cartier assumed that these people came to the Gaspé each summer to fish, but this seems unlikely. The Gaspé was 600 kilometers northeast of the Iroquois' home base, a very long distance by canoe along an open sea coast. Excellent fish resources could be found in the St. Lawrence River much closer to home, and in an area where more than a single canoe-load of dried fish could be transported home for winter use. In any case, if Cartier's count of people and canoes (300 people in 40 canoes) is approximately correct, there cannot have been much room in the canoes for cargo. Some scholars have suggested that this large band of Iroquois must have been a war-party, intent on carrying out an attack on their neighbors, the Micmac. Yet this does not ring true, since Cartier reports the presence of numbers of women and children, and Iroquois war-parties were generally limited to men.

There is good reason to suspect that the real attraction of the Gaspé for the Iroquoian peoples of the St. Lawrence valley was not its fish resources, or the proximity of enemy tribes, but the summer presence of European fishermen and traders. The large party of Iroquois met by Cartier may have been seeking an opportunity to obtain a share in the trade already established with their Micmac neighbors and rivals to the south. They must have been less active in this trade than the Micmac, since they had not provided themselves with quantities of fur. Other hints in contemporary accounts suggest that the Iroquois of the St. Lawrence valley were making even longer voyages along the north shore of the Gulf for the same reason, and that Cartier may have seen some of these people as far east as Blanc Sablon.

Previous knowledge of European fishermen is also suggested by the behaviour of this group: the relative ease with which they could be persuaded to approach in order to receive beads and other trinkets; their formal dances and songs welcoming the Europeans ashore for further trading (with the young women well hidden in the nearby forest); and the practiced thievery of anything they could lay their hands on. Despite this familiarity, Cartier's new acquaintances seem to have been surprised and concerned by his behaviour on July 24, when he erected a large wooden cross bearing the inscription "*Vive le Roy de France*." A protest delegation, led by a chief named Donnacona, approached the ship and was forced aboard. Cartier talked his way out of the situation by explaining that the cross was merely a navigation marker, designed to simplify future visits which would be made in order to bring more trade goods. The discussion ended with two young Indian men, understood to be the sons of the chief, staying aboard the ship and leaving with Cartier when he sailed away the following day.

It is not clear whether this was an arrangement agreed to by Donnacona, (as Cartier's report would have us believe), or an outright kidnapping. We may assume that it was something in between, probably facilitated by mutual incomprehension, and by the food and drink provided during the discussions. It was an arrangement which would provide Cartier with guides and, after the boys had spent a few months in France, with interpreters who would be invaluable for further western exploration. To the Iroquois, if indeed they had any choice in the matter, it may have been a means of consolidating their relations with a group of Europeans who appeared to be more persistent than the fishermen who appeared sporadically off the continent's eastern shores, and with whom a secure trading relationship would be most profitable.

Cartier's tour of the Gulf of St. Lawrence was completed by a brief exploration of Anticosti Island, a large, forested island that blocks the mouth of the St. Lawrence River so effectively that Cartier thought he was exploring a dead-end bay. In view of the deteriorating weather and the lateness of the season, the explorers decided to head for the Strait of Belle Isle and home. On the way, probably near the present town of Natashquan, a group of Indians approached in canoes and climbed aboard the ship "as if they were Frenchmen." Cartier reports that these Indians were with a "Captain Thiennot," for whom he named the local cape. Cartier did not bother to explain who "Captain

The Archaeology of Cartier's Voyages

Cartier was not the first European to visit Canada, but he was the first to leave accounts that told approximately where he landed and what he did there. He is, therefore, the first to leave remains which archaeologists have much hope of locating. We cannot expect to find the remains of the large cross raised in 1497 by John Cabot when he took possession of the country for England; the cross could have been erected anywhere between Labrador and Nova Scotia, and was almost certainly dismantled by Indians within a year. We may have slightly more hope of finding the remnants of the two crosses erected by Cartier, since we know their approximate locations.

In fact, the twentieth-century yachtsman and historian Harrison F. Lewis, tracing Cartier's track along the north shore of the Gulf of St. Lawrence, found a cairn of stones on the summit of a hill at the eastern entrance to Rocky Bay. This small inlet is convincingly identified as Cartier's St. Servan Bay, where a cross was erected on June 12, 1534. Lewis suspects that the cross was erected in the same prominent location marked by the cairn, and may even have used the same rocks for support. The location of the Gaspé cross has never been precisely decided, and historians have had to arbitrarily select a site for commemoration of the famous land-taking and kidnapping.

While we can have little hope of finding the remains of early cross-raisings, we should have better luck with settlements. The location of the Portuguese colony in Nova Scotia, the first sixteenth-century European settlement in Canada (ca. 1520) is not known with any precision. It was probably located in a bay along the east coast of Cape Breton Island, but no trace of its wooden foundations, red roofing tiles or middens of fish bones have yet been found. Cartier's accounts are much more precise: we can calculate to within a kilometre or so the location of his first wintering at Québec, and probably of the later estabishments at Cap Rouge. Over the past century, archaeologists have occasionally tried to locate the remains of these settlements, but with no success. There has simply been too much construction activity in and around the city of Québec for the past 300 years to allow us to find and recognize what must have been the relatively meagre remains of Cartier's and Roberval's wintering sites. Various sunken wrecks — all probably the remains of eighteenth or nineteenth-century barges or river boats — have been taken for the remains of the *Petite Hermine*, abandoned in 1536 and almost certainly burned by the Stadaconans in order to retrieve its ironwork.

Fragments of wood and iron were recovered from a wreck found during the nineteenth century in the St. Charles River at Québec. The discoverers wished to identify the wreck as the Petite Hermine, *the small ship abandoned by Cartier at Stadacona in 1536. The debris, which is almost certainly from a later wreck, was given to the town of Saint-Malo, where it was exhibited as seen in this postcard.*

To date, then, we have not been able to identify any remains of Cartier's activities in the New World. Most have probably been destroyed by construction activities, or by natural erosion over the past 450 years. Others may have been preserved, either still hidden in the ground or disguised as the results of more prosaic past events. It is not impossible that some of these vestiges will be recognized by future excavators, and we will be able to define a precise location for commemorating an important moment in Canada's past.

Thiennot" was, suggesting that Thiennot was previously known to him, perhaps from earlier encounters in the Strait of Belle Isle area.

These Indians stated that they had come from the "Grand Bay" (the Strait of Belle Isle) and that the fishing vessels there had already set sail, fully loaded, for Europe. These men were obviously accustomed to dealing with Europeans, and considering the information they passed on about the fishing fleet in the Strait of Belle Isle, they were probably capable of speaking and understanding at least a few words of French. If they were able to describe the state of the European fishing fleet to Cartier, they must have been equally capable of describing the geography of the area to the European fishermen. Cartier's brief description of his meeting with these communicative Indians, 400 kilometres west of the Strait of Belle Isle, supports our suspicions that the French fishermen of Belle Isle must have had considerable knowledge of the Gulf of St. Lawrence prior to Cartier's voyage. In any case, this meeting marked the end of Cartier's summer of exploration. A few days later he was in Blanc Sablon and, following the lead of the fishing fleet, arrived home in St. Malo on September 5.

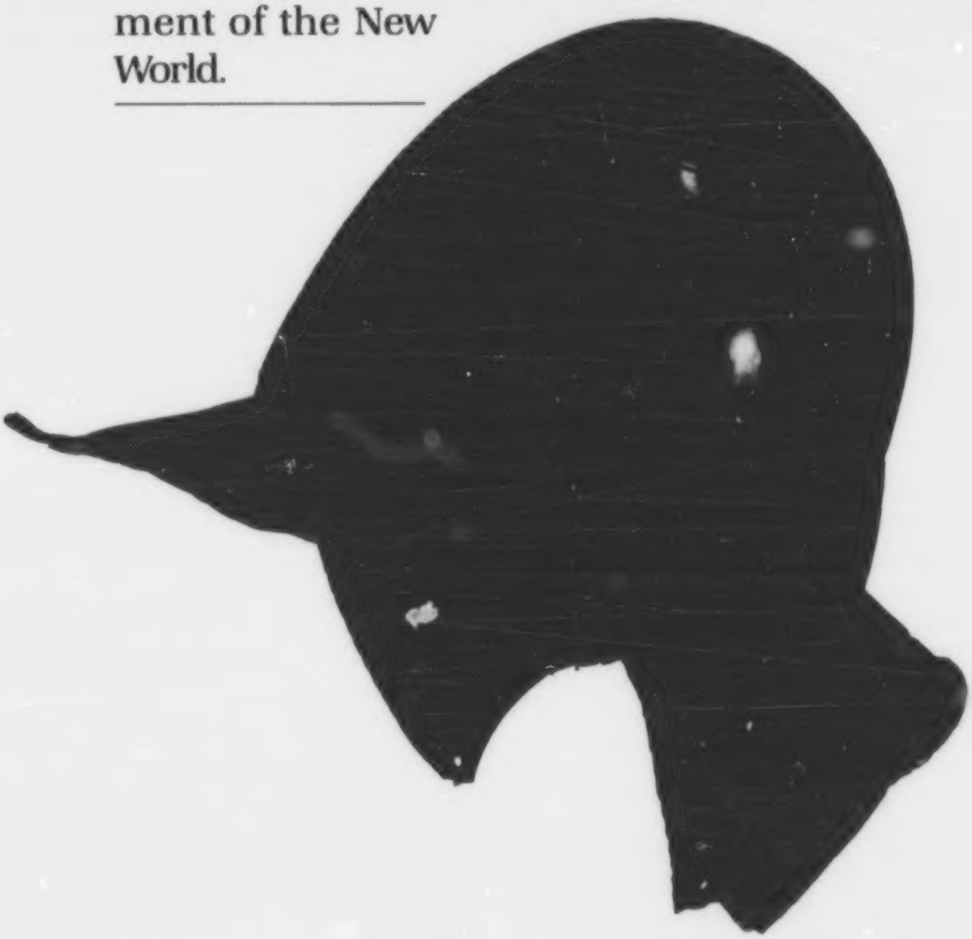
Cartier's Accomplishent

It has been argued above that Cartier's first voyage of exploration merely followed in the footsteps of earlier, unrecorded European navigators of the Gulf of St. Lawrence. Yet despite the fact that he cannot be considered the "discoverer of the Gulf of St. Lawrence," his voyage can be judged an unqualified success. Cartier officially confirmed the existence of the great gulf "behind" the New Found Land, and measured its bounds. He navigated his ships for three months in unknown waters without ever having put them in serious danger. He encountered and dealt with at least three groups of Indians without any known injury or death on either side — an impressive accomplishment in the early sixteenth century. Most importantly for his future and for that of the French nation, he had established relations with the group of Indians who would soon lead him westward into the heartland of the American continent.

CHAPTER 9

CANADA

Jacques Cartier's first voyage did not lead to the discovery of gold, riches or a passage to the Indies. Yet Cartier brought back something of great value: two Iroquois boys, whose stories of a great waterway to the west in a country called Canada, set the stage within a year for French penetration and eventual settlement of the New World.



Following a 1534 edict, French infantrymen were provided with "Bergundian" helmets. The full peaks, cheek-pieces and neck-guards of these helmets provided excellent protection.

Despite Jacques Cartier's current renown as "The Discoverer of Canada," the return of his first voyage in September, 1534 cannot have caused much excitement in St. Malo or in France. As was argued in the previous chapter, his exploration of the Gulf of St. Lawrence probably did not result in the discovery of new country, but only confirmed what was already known by Breton fishermen who had operated in the area for years. His ships carried no gold, spices, logwood, slaves, or other marketable commodities. Although he was enthusiastic about the fertility of the Magdalen Islands and a few neighboring regions, Cartier seems to have considered much of the land which he had discovered as unfit for human settlement.

Yet within two months of Cartier's return, there was talk of a new voyage, and by the following spring the French crown had outfitted a fleet of three ships equipped with supplies for overwintering in the New World. Something which Cartier had brought back had obviously attracted the interest and support of the king. Since Cartier's ships had carried little in the way of material goods, we may guess that it was some piece of information that interested the king. There is little in the reports of Cartier's voyage to account for such interest, so it seems reasonable to suggest that the information may have been something which was learned in the autumn of 1534, from the two Iroquois boys whom Cartier had kidnapped from the Gaspé Peninsula.

The Consequences of a Kidnapping

The boys had been captured on July 24. By the time the ships reached St. Malo, six weeks later, the captives must have learned enough French for basic communication. Indeed, since Cartier seems to have valued these boys primarily as interpreters, a particular effort may have been made to teach them the French tongue, especially after their return to France. At the same time, the boys must have been subjected to endless questions about their homeland, both by Cartier and his people and by the curious citizens they encountered as part of their daily lives in France. The stories which they told, perhaps partly misunderstood because of their imperfect French, or exaggerated by enthusiastic interrogators, may have convinced both Cartier and the king that the Gulf of St. Lawrence hid greater treasures than had been revealed to his first voyage of exploration.

The stories almost certainly revolved around the fact that the nation to which the boys belonged occupied the shores of a great waterway which led far to the west. There must have been talk of a homeland called "Canada," where their people lived a relatively secure and settled life in a town of large wooden houses. There were probably tales of a more distant and wealthier land named "Hochelaga," and even of a remote country called "Saguenay," inhabited by civilized people who had stores of copper, and perhaps more precious metals.

The reports of metals, and of a major channel leading westward toward the Orient, would have excited any European explorer or monarch of the time. Thus it seems likely that Cartier's rather fortuitous kidnapping of two boys led directly to his further explorations of the New World. Unfortunately, the act and the attitudes which provoked it also carried the seeds that would inevitably lead to the failure of Cartier's schemes to establish a European presence in the newly discovered lands.

Cartier's further adventures in the New World — both during his exploratory voyage of 1535-36 and his attempted colonization of 1541-42 — were a direct consequence of the abduction of July 24, 1534. From that time onward, Cartier was following Indian information through Indian-controlled lands. His further history is, almost totally, the history of his dealings with the aboriginal peoples of the St. Lawrence Valley. The realization of this fact immediately condemns the traditional picture of Cartier as the intrepid captain fearlessly penetrating unknown territory, purchasing the fawning favour of Indians with trinkets of little value, amazing them with the sound of cannons and trumpets, and harshly punishing their occasional and unaccountable acts of savage hostility. Bruce Trigger, the eminent archaeologist and historian from McGill University who has made a detailed study of the Canadian Iroquoian peoples, has carefully analyzed Cartier's explorations from the viewpoint of the Indians whom he met and dealt with.

Much of the following account makes use of the perspective established by Trigger's work, which offers a far more plausible picture of Cartier's exploration and colonization.

The Indians of "Canada" and "Hochelaga"

The Indians with whom Jacques Cartier dealt during his second and third expeditions were a people known to historians and archaeologists as the St. Lawrence Iroquois. We do not know what name they gave to their own nation, since they disappeared from the St. Lawrence Valley and from history at some time during the sixteenth century. Our knowledge, based largely on Cartier's accounts, relates to two local groups of these people: one who lived in a territory called "Canada," near the present location of Québec City, and the other in a territory named "Hochelaga" near Montréal.

The Canadians and Hochelagans, probably together with one or two other regional groups, made up the most northeasterly branch of the Iroquoian peoples, whose aboriginal lands included much of the territory in what is now New York State, southern Ontario and southern Québec. They were also the most northeasterly of the New World agricultural peoples, obtaining much of their subsistence from crops of maize, beans and squash. These were the same crops which supported the large Indian nations of the central and southeastern United States, as well as the civilizations of Mexico and Central America far to the south. The pattern of life followed by the Iroquoian peoples can be seen as a distant northern reflection of these aboriginal New World civilizations.

The Iroquoian culture and world-view were totally alien to the experience of Cartier and other early European explorers, who tended to interpret such alien cultures as simple and ignorant copies of European manners of living. We may assume that the Iroquois thought of European visitors in a very analogous fashion. Such attitudes, combined with attempts to communicate through mutually incomprehensible languages, must have resulted in a state of chronic misunderstanding between early European and Indian peoples.

The French and the Iroquois were never farther apart than in their understanding of the political organization of the other society. Cartier apparently regarded Iroquois society as a very rudimentary version of the European society with which he was familiar: political authority emanated from God, who conferred it upon the king of a nation, who in turn conferred lesser amounts upon his noble subjects. The nobles, in turn, defended the nation, maintained order, and ensured that a suitable amount of wealth was transferred from the lower orders to the nobility, royalty and the church. Wealth, status, rank and name were inherited through the male line. The system was based on the individual's recognition of his in-

This drawing of a French soldier with arquebus is based on an illustration from a Dieppe map of 1538. All expeditions to the New World carried a certain number of armed men.

herited station in society, submission and obedience to those in higher stations, and a supposed duty to care for those in lower stations.

The Iroquoian political system, on the other hand, derived its organization and authority from the basic unit of society, the family. Inheritance passed through the female line, and newly-married men moved from their childhood homes to live with the families of their brides. The primary unit of Iroquois society was the group of nuclear families headed by a group of sisters, their daughters and nieces, who resided together in a single longhouse or in a certain area of a village, and all of whom were related through a single female ancestor. Most Iroquoian villages were composed of several of these extended family units. Each extended family elected two leaders (if the St. Lawrence people were like their Iroquoian relatives of New York State, the voters were the female members of the family and the chief was elected from a noble lineage): a civil chief who dealt with community and religious matters, and a war chief who organized and led the male members of the family in warfare. The affairs of each village were discussed by a council of the civil chiefs; decisions were reached by consensus of this council, and announced by a spokesman who was elected by the chiefs. The affairs of the nation were discussed by a similar council of village headmen.

Iroquoian society was based on the ideals of social equality, decision by consensus, and the absence of coercion: no individual or organization had the power to force another individual to live by a decision with which he did not agree. It has been argued that the concept of democracy, and specifically that form of democracy defined in the American constitution, was based to some extent on the Iroquoian model. We should not be surprised that Jacques Cartier had no awareners of Iroquoian social complexity. There was a similar lack of comprehension when the two systems of government — democracy and monarchy — met once again, 250 years later in Paris during the French Revolution.

Undoubtedly, Cartier had very little interest in comparative political theory. He was obviously aware, however, that the successful exploration and exploitation of the new country depended on maintaining civil relations with the occupying populations. He attempted to establish such relations in the traditional manner of a European dealing with the lower classes of his own land: by purchasing goodwill through the distribution of "goods of little value" (a phrase which recurs throughout his reports, as if he is afraid of accusations by his king or countrymen of paying too dearly for access to a new world); by a combination of bullying threat and stern rebuke; and by the judicious use of violence, up to and including abduction.

Such methods were far from the Iroquois ideal of politeness and non-coerciveness in human relations. Moreover, such methods could not force compliance from the men whom Cartier took to be "Captains" or "Kings," yet who lacked the authority which Cartier assumed them to have over their fellow citizens. As might be expected, Cartier's methods led to the gradual deterioration of relations between the Iroquois and the European newcomers.

We should not blame Cartier too harshly for the way he dealt with the Indians of the St. Lawrence Valley. He was a European of his generation, one that had also produced Cortes and Pissarro. Unlike the conquistadors of New Spain, however, Cartier lacked the support of an army, a fleet, and a monarch whose treasury was hungry for Mexican or Peruvian gold. With only the immediate support of his small crew, and the very distant and rather apathetic patronage of the French king, Cartier must have felt very isolated and extremely vulnerable among the Iroquois. The increasingly hostile relations between French and Iroquois cannot be blamed on the arrogance and ignorance of either side, but rather on mutual fear and suspicion. Such fears were the inevitable result of contact between two peoples who were totally inexperienced and naive at relations with others of different cultural backgrounds. Lacking both the experience necessary to deal diplomatically in a new cultural environment, and the military and administrative support necessary to win a new and populated land by force, Cartier's attempt to establish a French foothold in the New World was doomed to failure.

On Sunday October 3, 1535, Jacques Cartier and about 20 companions advance through fields of maize towards the Iroquoian town of Hochelaga, where the chief awaits his visitors.

Canada

Cartier's second expedition, with three ships and 112 men provisioned for a voyage of fifteen months, was considerably larger than the first one in 1534.

After making landfall at the Funk Islands and killing two boatloads of birds, Cartier proceeded to Blanc Sablon (at the modern boundary between Québec and Labrador) where he awaited the other ships of his storm-scattered fleet. By the time they had arrived, it was almost the end of July, very late in the season for exploration in unknown territory. Nevertheless Cartier set out westward, along the bleak and island-studded coast he had dismissed the previous year as "Cain's Land." Two weeks later he had reached the western limit of his previous explorations, and entered a small harbour which he named *baye sainct Laurens*; this name was gradually expanded by mapmakers of the following generation until it applied to the entire river and gulf explored by Cartier.

Cartier, however, was following other names, as he pursued a curious zigzag course up what is now the St. Lawrence River. Passing the western tip of Anticosti, which was finally recognized to be an island, he first steered southwestward toward the land which his captive Indian guides called *Honguedo*, the present Gaspé. The captives may have directed his course in the hope of meeting with a party of their countrymen, for they had been abducted from that same coast the previous summer. Encountering no Indians, however, they soon recrossed the narrowing river and began to explore the north shore. Now the guides assured Cartier that he was approaching the borders of the "Kingdom of Saguenay," whence came the copper that their people used as ornaments; furthermore, the river they had just crossed was "the great river of Hochelaga, and the route to Canada." By this time Cartier must have known, if he had not already known before he left France, that the passage to the west was a river of fresh water rather than a salt-water channel providing a passage through the New World to the Orient. Yet there is no indication that this realization changed his plans for westward exploration.

Having investigated the mouth of the present Saguenay River, and of other rivers along the north shore, Cartier continued heading up the St. Lawrence. In early September he eventually arrived at the Ile d'Orléans, in the territory which the captives called "Canada." Here they met a large party of Indian fishermen from the nearby community of Stadacona, which seemed to be the capital town of the territory. News of their arrival must have spread quickly, for the next day they were attended by a delegation led by Donnacona, the "captain" of the party Cartier had met the previous summer at Gaspé, and the father of Cartier's two captives. After a joyous reunion, and an exchange of gifts (fish, eels, maize and melons in return for the customary trinkets "of little value"), Cartier's men rowed their boats upstream and selected a harbour for their ships. Within a week the two larger ships, the *Grande Hermine* and *Petite Hermine* were safely anchored in the mouth of the St. Charles River at what is now the city of Québec.

Although the season was late, Cartier was determined on further exploration, and began preparations to set off upstream. He had learned that the Stadaconans had little of value, and was intent on penetrating the land of Hochelaga to the west, as well as learning more of the Kingdom of Saguenay. This plan was not what the Indians of Stadacona and Canada had expected. Insofar as they could understand the motives of the visitors, they may have believed that Cartier had reappeared solely in order to return the hostages, and to bring to their people the lucrative exchange of European metal goods for furs, a trade which other Europeans had already established with the Indians of the eastern seaboard. When it became apparent that Cartier was using their community merely as a stepping-stone in order to establish contact with more distant and wealthier peoples, they were understandably disappointed.

Cartier's first hint of trouble came when the two Indian boys whom he had taken to France the previous year (and who now began to be reported in the accounts of the voyage by their names, Domagaya and Taignoagny) refused to accompany him as guides and interpreters on his planned journey to the west. This may have been an attempt to persuade Cartier to remain at Stadacona, but it probably also reflected the simple and understandable unwillingness of the two boys — who had been staying well clear of Cartier's ships — to put themselves back into the power of the French. Discussions and negotiations continued over the next few days. The

The author of this 1556 map, Guillaume Le Testu, obtained much of his information from Portuguese documents. Most of the place-names are those given by Portuguese explorers, but French place-names in the Strait of Belle Isle demonstrate French penetration of the area. Cartier's second voyage is recorded in a series of names along the St. Lawrence River: Sept-Iles, Rivière de Saguene, Ille d'orléans, Ochelassa. *The ornamentation of the map sustains the idea that, despite the recent setbacks of Cartier and Roberval, the New World was a land of promise.*

Indians warned Cartier about the dangers of upriver travel, and arranged a shamanistic performance which resulted in a prediction that the French would perish from winter cold and snow if they proceeded upstream (a reasonably accurate prediction, as things turned out). Donnacona appears to have tried to conclude a formal alliance between Cartier and the people of Stadacona, first through the presentation of three children to live with the French, and later through the suggestion that one of his sons would accompany Cartier if a Frenchman were sent to live with the Stadaconans. Cartier interpreted the children as a gift, which he repaid with two swords and two washbasins. The exchange of hostages was refused, since by this time Cartier had lost all trust in the sons of Donnacona.

Leaving Stadacona on September 19, Cartier's small party travelled for almost two weeks up the St. Lawrence River. It was a slow but relatively uneventful journey, during which they passed numerous Iroquois camps and encountered a few Indian hunting and fishing parties. On October 2, travelling in two boats after having abandoned their small ship at Lake St. Pierre, they reached the shore of what is now the island of Montréal.

Hochelaga

Cartier's brief visit to Montréal provides one of the classic pictures of Canadian history. The scene is engraved in the mind of every schoolchild: the explorer is greeted as a visiting god, led through extensive fields of corn to a ceremonial welcome in the central square of the palisaded town of Hochelaga, and then to Mount Royal where he surveys the St.

Lawrence and Ottawa rivers extending — alas — into the heart of an unexplored continent rather than to an open Oriental sea. The actual scene is directly based on first-hand accounts, and is probably reasonably accurate. Yet in trying to reconstruct what happened on that October day, we must remember that Cartier, not trusting his previous hostages, had travelled to Hochelaga without an interpreter. Consequently, the underlying motives and emotions for the day's activities were probably far removed from those generally ascribed to the people involved.

It is very unlikely, for example, that the Europeans were mistaken for gods. The welcome Cartier received may have been little more than the one Hochelagan duty and politeness would have provided to any party of travellers newly arrived from a distant country. Lewis Henry Morgan, the early nineteenth-century student of the Iroquois, wrote that, "One of the most attractive features of Indian society was the spirit of hospitality by which it was pervaded. Perhaps no people ever carried this principle to the same degree of universality as did the Iroquois." The scale of the welcome probably also reflected the fact that Cartier's people were wealthy travellers who had access to rare and valuable artifacts: the manufactured metal objects which the Hochelagans had previously obtained only through trade with the peoples of the eastern seaboard.

On the European side, the actions of Cartier and his men must have been produced by a heady mixture of ambition, curiosity and fear. They were the first Europeans to penetrate any distance behind the eastern coasts of the northern New World. The Indian populations of the eastern coasts had little wealth of interest to Europe, aside from their fur clothing. Yet the Caribbean Indians who had been contacted by Columbus were also simple farming people, with little silver and gold. Only when Cortes penetrated the Mexican interior were the riches of New Spain revealed and acquired for Europe. Was it not conceivable that fifteen years later, a similar penetration of the northern New World would also reveal the existence of fabulously wealthy and fragile civilizations which could be exploited for the glory of France?

History has turned Cartier into a journeyman explorer, a competent but somewhat unimaginative man, who managed to complete a difficult task with little risk or excitement. This is certainly the impression which is gained by reading the first-hand accounts of his explorations. Yet his actions, as opposed to his reports (particularly the neglect of Stadacona, and the single-minded efforts to reach Hochelaga and to learn more of Saguenay) suggest that, in his heart, Cartier may have seen himself as a second Cortes. Given the geographical knowledge of the time, this was not a particularly wild delusion; gold mines, even forests of spice-trees, might well have existed in the upper St. Lawrence valley.

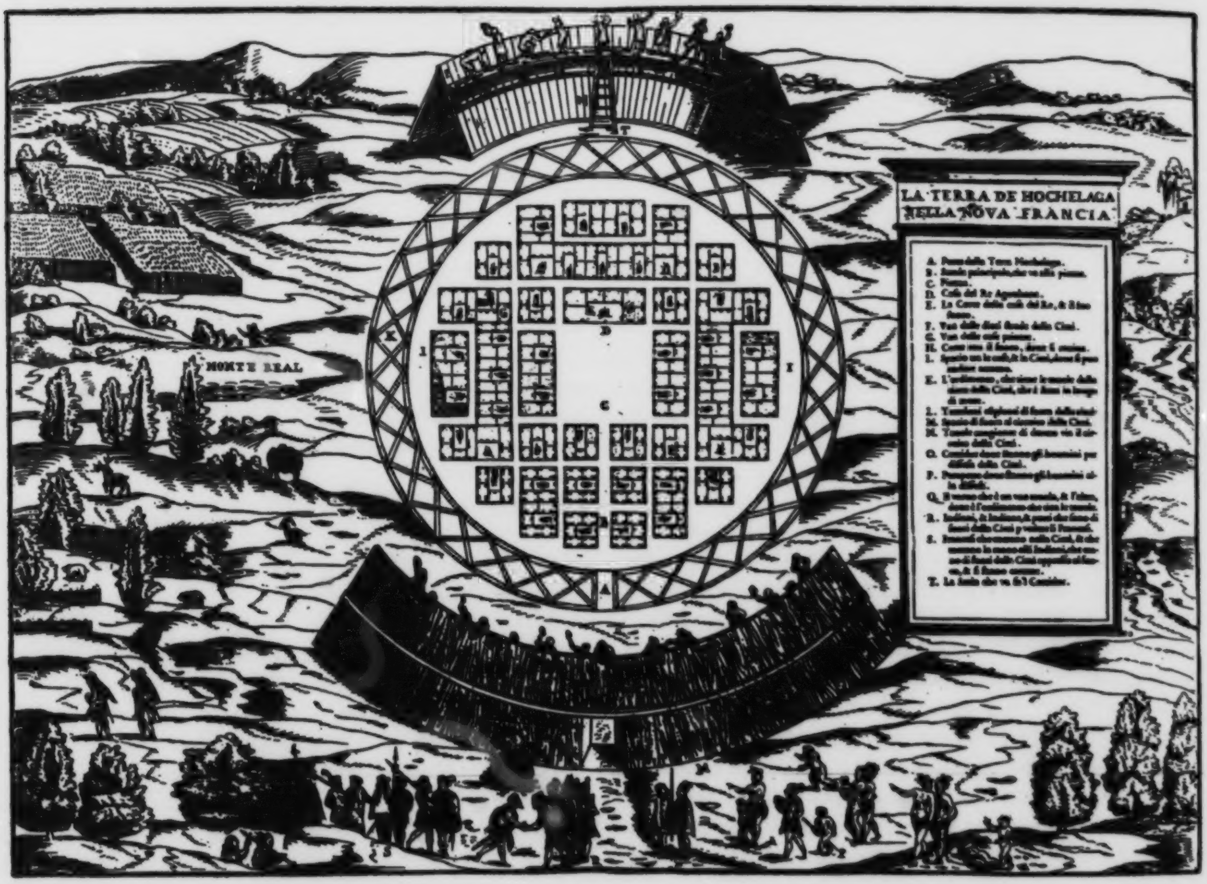
But if Cartier thought of himself as a Cortes, it was a Cortes who lacked an army, and who, consequently, was extremely wary of putting himself in the power of the native peoples of the New World. From what we can tell from his accounts, Cartier had not visited an Indian settlement before he reached Hochelaga. There is no indication, for example, that he had entered the town of Stadacona, off which he had anchored his ships. His previous dealings with natives had been either aboard ship, or in carefully arranged shoreline encounters where the numbers of Europeans and Indians could be roughly balanced, from which rapid withdrawal could be made by boat, and which were probably covered by his ship-board artillery. Now, somewhere near the present location of Montréal's Jacques Cartier Bridge, Cartier had reached his destination, Hochelaga. His two small boats carried 35 men, while on the shore there was a welcoming crowd which he estimated at 1,000 people. If he were to emulate Cortes and enter the capital city of this country, Cartier must leave his boats and put himself and his men at the mercy of the Iroquois.

The explorers chose to spend the night of October 2 aboard their boats, while the Iroquois gathered around fires along the shore of Montréal Island. A mid-October night (Cartier's dates are counted in the old Julian calendar, which is nine days ahead of the one used today) in a small boat on the St. Lawrence River must have been very uncomfortable, but we can hope that the weather was unseasonably warm. The next morning, Cartier arrayed himself in his finest clothing (some interpretations suggest that he wore armour, but this is unlikely), left ten men to guard the boats, and landed the remainder of his well-armed party. After advancing for several kilometres along a well-beaten forest road, they came to a fire where welcoming speeches were made by a headman. Cartier's party was then escorted through extensive cornfields to the town which he called Hochelaga. The town nestled against the slope of Mount Royal, and was home to approximately 2,000 Iroquois. The explorers were conducted through the single gate in the encircling palisade, and down a street between about 50 huge longhouses to a central open area. Here they found themselves among a massive but apparently quite orderly crowd of men, women and children.

In this setting, Cartier exchanged incomprehensible speeches (including a reading from the Bible) and gifts with the village headman, a paralyzed man about 50 years of age, and distributed smaller gifts to the assembled crowd. Children and old people crowded around to touch the visitors, and the women laid out a feast in their honour. The French, however, refused to eat. They excused themselves to the Iroquois by stating that they were not hungry, and explained in their report that they did not like the taste of unsalted food. It is hard to believe that their tastes were so dainty, however, and they must have known that refusal to share food would be considered a great insult to their hosts.

Cartier and his men were probably suffering a mixture of disappointment and anxiety. They had entered the famous Hochelaga and found that it was not another Mexico, but a small farming town, whose chief wore a headband of porcupine quills rather than a golden crown. The people of Hochelaga considered shell ornaments to be their greatest wealth, and although Cartier investigated the shells, he found them to be of little value. Despite their poverty, however, these people had weapons and could easily overwhelm the French if the situation unexpectedly deteriorated. Under these circum-

The first description of Hochelaga was published in Italian in 1556, by the celebrated Venetian editor Ramusio. The illustrator has attempted to include several episodes related to Cartier in this engraving: the town surrounded by a palisade, the fields of grain, the encounter with the chief etc. Unfortunately, the town plan seems to be based more closely on Italian Renaissance ideals than on New World reality.



stances, Cartier must have decided that discretion called for a rapid retreat from Hochelaga. The explorers' ascent of the adjacent mountain was probably undertaken in part to gain geographical knowledge of the surrounding country, but it may also have been seen as the most obvious way to disengage themselves from a large body of followers.

Reaching the top of Mount Royal accompanied by several Iroquois men and women, Cartier's party saw the St. Lawrence River blocked by an impressive set of rapids, and were told of other rapids further upstream. They saw the Ottawa River flowing from the northern mountains, assumed that it came from the Kingdom of Saguenay, and were told that the river was occupied by warlike people. They understood, from the Indians pointing at the silver chain of Cartier's whistle and a gilt dagger handle, that precious metals came from that direction. Having made these discoveries, the explorers retreated to their boats, some of the party rather unaccountably being carried piggyback by Iroquois men.

The departure must have been hurried and Cartier's party must have spent the night on the river, since they reached their ship, anchored 75 kilometres downstream, on the following day. The entire visit to Montréal Island — the march to Hochelaga, the ceremony in the central plaza, the ascent of Mount Royal and the return to the boats — had been accomplished during the approximately 12 hours of daylight available at that time of year. Having discovered that Hochelaga was not the hoped-for northern El Dorado, Cartier wasted no time in regaining the safety of his ship and his artillery. A week later they had rejoined the remainder of their party at the ships anchored near Stadacona.

The First Winter in Canada

In Cartier's absence, his men had erected a wooden fort defended by cannon, which was to serve as the base for the French wintering party. Relations with the Stadaconans began well, with mutual visits and trade of food supplies in return for metal goods. Donnacona and his people must have been relieved to find that the journey to Hochelaga had not gone particularly well from Cartier's viewpoint, and attempts were probably continued to conclude a formal trading alliance with the Europeans. Yet as winter set in, a winter much longer and colder than the French had thought possible, a variety of incidents began to take their toll on relationships between the neighboring groups.

For a start, Cartier was annoyed to find that his hostages of the year before, Domagaya and Taignoagny, had quite naturally told their countrymen that Cartier's trade stock was considered of very little value in France. As French food supplies began to run short, they found that the cost of food was escalating, and that refusal to meet the new price resulted in a refusal to trade. One of the three children who had earlier been sent to live with the French ran away, and claimed that she had been abused. There were undoubtedly a series of more minor events, the results of either malice or misunderstanding between French and Iroquois. In the early winter a mysterious illness struck the Indian village, killing over fifty people. This was probably the first of many European diseases to strike the St. Lawrence Iroquois; Cartier does not report that the French were blamed for the illness, but the visitors may have been suspected. Later in the winter, however, when most of the French contracted scurvy and twenty-five had died of the disease, Domogaya rescued them by showing them how to prepare an infusion of cedar leaves and bark.

The Iroquois do not seem to have been united in their treatment of the French. Some factions were probably conciliatory, while others may have called for outright hostility. Donnacona and his sons may have tried to establish a moderate policy, retaining the advantages of trade while having as little direct contact as possible. As spring progressed, numerous outsiders began to arrive at Stadacona, perhaps to have a look at the nearby French, and probably to join in the discussion of future dealings with the foreigners. The growing numbers of Indians added to Cartier's fears, and he decided to leave for home as soon as the river melted.

In the meantime, Cartier continued to be fascinated by Donnacona's stories of the Kingdom of Saguenay, rich in gold and rubies, and inhabited by white-skinned men who wore woolen clothing like that of the French. It is impossible to tell whether such facts were actually stated by Donnacona, perhaps in order to whet French interest in continued trade, or were the

This map of the east coast of North America was drawn around 1546 by Pierre Desceliers, at the command of Henri II of France. The Roberval expedition of three years before is illustrated by a drawing of the king of "Sagnay" on his throne, towards whom advance a large troop of French soldiers led by "Monsieur de Roberval."

products of misunderstanding and mistranslation. Whatever the explanation for the tales, they decided Cartier on another kidnapping: Donnacona himself was to be taken to France to tell his own stories to the king.

Accordingly, on May 3, shortly after the ships were free of ice, the people of Stadacona were lured to the vicinity of the fort by the erection of a huge cross. Despite their apparent fear of being captured, Donnacona, his two sons and two other headmen were kidnapped and taken aboard the ships. When Cartier sailed the next day, he carried ten Iroquois, including the children who had been living with the French for some time. The shores were lined with hostile or grieving relatives, while canoes followed the ships downstream, bringing gifts of beaver and seal pelts, copper knives, and shell ornaments, in attempts to ransom the hostages. None of the Indians returned to their homeland, and all soon died in France. When Cartier came back to Stadacona five years later, with French settlers but no Indians aboard his ships, the memory of the hostages was sufficient to ensure a hostile welcome.

Cartier completed his voyage by sailing to the Magdalen Islands, and then heading for the strait whose existence he had previously suspected between Cape Breton Island and Newfoundland. He made landfalls on both northern Cape Breton Island and southwestern Newfoundland, then continued along the southern coast of that island until encountering French fishermen. After rounding Cape Race and taking on water at the established harbour of Renews, he made an easy three-week crossing of the Atlantic and arrived home in St. Malo on July 15.

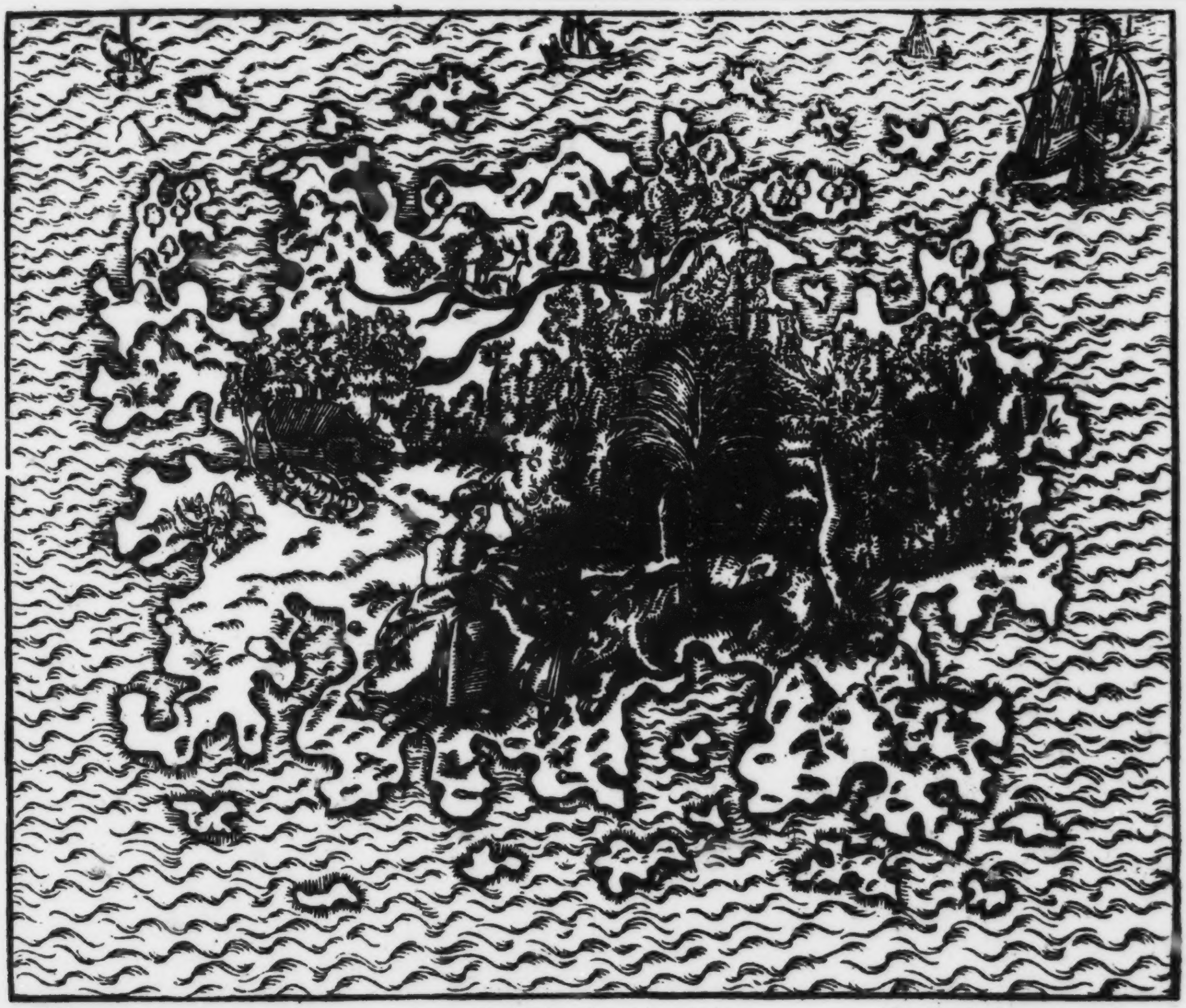
The Ordeal of the Abandoned Demoiselle

The Roberval expedition produced one of the most harrowing and romantic stories from the Age of Exploration, one that has unaccountably been downplayed or ignored by most Canadian historians.

The tale was first published in 1559, in the famed *Heptaméron des nouvelles*, a collection of moral and uplifting stories written by Marguerite, Queen of Navarre, the sister of François I. It told of a common artisan who was condemned to death by Roberval for having plotted treason during the voyage from France to Canada. Upon pleading by the man's wife, the sentence was commuted to banishment on an unoccupied island, and the wife chose to be marooned with her husband. After some time the man died, leaving his wife to survive in a dreadful solitude. She lived on wild foods, protected herself and the corpse of her husband from attacks by bears, and subdued the horrible shrieks of evil spirits by reading from the Bible. Eventually the smoke from her fire was seen by French fishermen, who rescued her and returned her to France. The ordeal which had almost destroyed her physically had not destroyed her spirit, and she settled down to a Christian life as a schoolteacher.

An alternate version of the story, and one which rings more true than the morally-cleansed tale of the *Heptaméron*, was published in 1575 in the *Cosmographie universelle* of André Thevet. Thevet claimed to have heard it from the woman herself, whom he identifies as a young gentlewoman named Marguerite de la Roche, a niece or cousin of Roberval. Before reaching Canada, Roberval learned that the unmarried Marguerite was having an affair with a gentleman of the party, an act that outraged the stern Protestant discipline with which the expedition was ruled. As punishment, he marooned Marguerite on a barren island, with only the company of her elderly female servant (because the servant had been an accomplice of the lovers, but probably also in a continuation of the spirit which buried servants in the tombs of ancient kings). The lover, who had inexplicably escaped punishment, jumped ship to join his lady; the fourth member of the marooned party, a baby, was born to Marguerite nine months later. From this point the story is similar to that of the *Heptaméron*: the servant, lover and baby die, leaving Marguerite alone to her dreadful vigil with the demons and the bears, until her rescue by French fishermen almost two and one-half years later.

A third source confirms the validity of the general story, as well as placing it in a geographical context. Jean Alfonse, a pilot with Roberval's expedition, wrote a description of his travels in a manuscript entitled "Cosmographie," which he completed in 1544. Alfonse's manuscript included a description of the areas through which the expedition had passed. On the north shore of the Gulf of St. Lawrence he noted the "Isles de la Damoiselle," and gave navigational descriptions suggesting it was a place of some importance. This is the first appearance of the placename, which occurs on several later maps and must relate to the abandonment of the lovers. Alfonse's account is sufficiently precise to allow the identification of the "Isles de la Damoiselle" with today's Harrington Islands, a group of small and barren rocks along the coast which Cartier characterized as "the land God gave to Cain."



"The island where a French damsel was exiled" is illustrated in André Thevet's Cosmographie universelle, *a description of the New World published in 1575. The engraving shows the brave young woman fighting off wild beasts which are trying to devour her child.*

Alfonse's placename provides support for Thevet's version of the story, in which the woman is an unmarried "demoiselle." The *Cosmographie* creates a problem of timing, however, if the manuscript was completed in May 1544 as Alfonse claims, and if the placename implies that he knew the outcome of the abandonment story. If Thevet's account is correct, the "demoiselle" should still have been awaiting rescue on her island when Alfonce wrote his manuscript. This conflict of timing suggests support for one early version of the tale, which states that the rescue was made by Roberval himself in the late summer of 1543. We would like to think that Roberval, stern disciplinarian that he was, may have regretted his savage act and called at the "Isles de la Damoiselle" on his way back to France. Marguerite's survival for sixteen months, over only one winter, is inherently more probable than for twenty-nine months and two winters. Also, if the castaways were very careful they may have escaped the notice of the native occupants of the area for one year, but scarcely for two and one-half. Of course, the fact that natives are not mentioned in any version of the story does not mean that the local Indians did not have a role in the eventual happy ending.

We will never know which version of the "Demoiselle" tale most closely reflects what actually happened on the barren North Shore of the Gulf of St. Lawrence over 450 years ago. There is enough mutual confirmation, however, to assure us that a young Frenchwoman was abandoned on that coast in the summer of 1542, that she endured a lengthy period of isolation, and that she survived to return to her homeland. We can also be confident that she possessed qualities of character and spirit which should assure her recognition as one of the heroes of European exploration in Canada

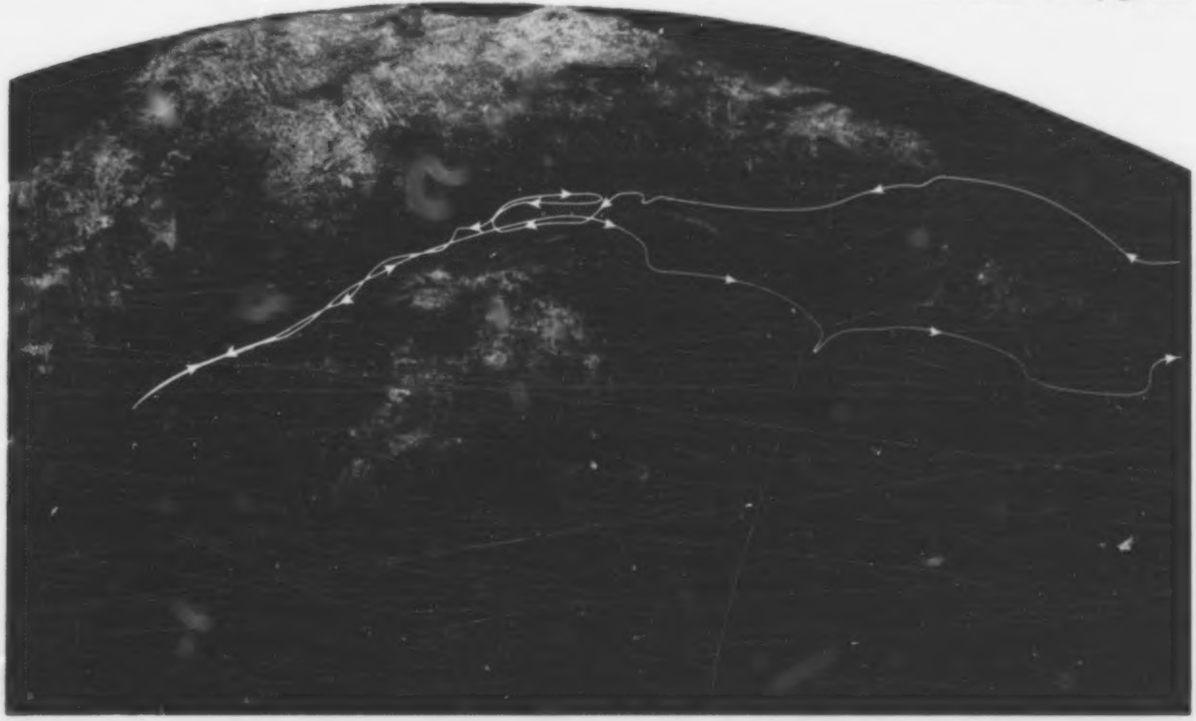
Charlesbourg-Royal, and the Search for Saguenay

Donnacona's stories of the Kingdom of Saguenay had the desired effect on the French king, who agreed to support a more ambitious effort at New World exploration. Cartier was to be in charge of recruiting a large number of settlers, from the prisons and elsewhere, and to use them to establish a permanent base of operations on the St. Lawrence. From this colony, major exploration efforts could be made into the interior. These plans were later changed so as to place a nobleman — Jean François de la Roque, sieur de Roberval — in charge of the project and representative of the king in the New World. Political, organizational and financial problems delayed the project until 1541. Even then, Roberval had not completed his arrangements; he found himself short of funds and decided to spend the summer in piracy. Accordingly, Cartier was ordered to set out for Canada in charge of a third expedition, five years after returning from his second.

Relatively little is known about Cartier's third voyage or the subsequent voyage by Roberval. The original French-language reports of the voyages are lost, and have survived only in the English translations summarized by the great sixteenth-century documentor of explorations, Richard Hakluyt. From these reports, and from other scattered documents and fragmentary references, we can reconstruct only the outlines of the two expeditions.

Cartier left St. Malo on May 23, 1541, with a fleet of five ships and a complement of gentleman-adventurers, soldiers, mariners, convicts and farm animals. They had a rough crossing, the ships became separated, and drinking water ran so short that the cattle, goats and pigs had to be fed on cider. The fleet eventually gathered in Quirpon Harbour in northern Newfoundland, took on water and wood, and sailed for Stadacona where Cartier had wintered five years before. They arrived on August 23, and were immediately met by a delegation from Stadacona asking about their long-departed relatives. Cartier, thinking that the new headman of Stadacona (who had been somewhat more pliant than Donnacona during the earlier stay) would be glad to have his position confirmed, truthfully reported that Donnacona had died in France. He lied about the others, explaining as best he could without an interpreter that they had remained in France "as great Lords, and were maried, and would not returne backe into their Countrey." The Iroquois "made no shewe of anger at all these speeches," but there were

Cartier's second voyage, 1535



probably indications that all was not well. The account of the meeting goes on to report that the Iroquois show of contentment "was all dissimulation, as afterward it wel appeared." More significantly, Cartier immediately set out upstream to find a more isolated location for his colony.

The chosen site was apprxomimately fifteen kilometres further upstream, near the present Cap Rouge. Here he began to clear land and build a fortified post which he named Charlesbourg-Royal. Despite the lateness of the season they planted cabbages, turnips and lettuce, which sprouted in eight days but which must have soon succumbed to autumn frosts. They also prospected for minerals, and immediately found what they enthusiastically assumed to be great riches:

> *And upon that high cliffe wee found a faire fountaine very neere the sayd Fort: adjoyning whereunto we found great store of stones, which we esteemed to be Diamants. On the other side of the said mountaine ... is all along a goodly Myne of the best yron in the world, and it reacheth even hard unto our Fort ... And on the waters side we found certaine leaves of fine gold as thicke as a mans nayle.... And in some places we have found stones like Diamants, the most faire, pollished and excellently cut that it is possible for a man to see, when the sun shineth upon them, they glister as it were sparkles of fire.*

Samples of the "diamonds" and "gold" were sent to France with two of the ships, along with news that the colony was established and preparing for the winter.

In early September, Cartier set out to reconnoitre the route he planned to follow the next spring to attain his main objective: the mysterious and wealthy Kingdom of Saguenay. His exploration party travelled in two boats, and followed the same route as his westward journey of 1535. They reached the present Montréal Island and left their boats in the same location as before. Rather than visit Hochelaga (which they now referred to by what is probably its true name of Tutonaguy) they continued along a portage trail upstream, to investigate the Sainte Marie and Lachine rapids. Here they encountered friendly Indian fishing parties, and were told of another major rapid located some distance upstream.

This bronze coin, bearing the arms of King Charles VIII of France (1483-1498), was found on the Gulf of St. Lawrence coast near Caraquet, New Brunswick. It carries the name of the city of Aquila, in central Italy, which was taken by the French in 1494. It may have been lost by a European visitor of Cartier's time, or before.

Cartier's visit to this heavily-populated section of the river was limited, as before, to a single day. By nightfall, complaining of not having eaten all day despite having been offered "Pottage and Fish" by the Indians, they returned to their boats, where they found a crowd of 400 people. The gathering was friendly, with a distribution of the usual "small trifles, as combs, brooches of tynne and copper, and other smal toyes, and unto the chiefe men every one his litle hatchet & hooke, whereat they made certaine cries and ceremonies of joy." The French continued to be wary, however, quickly setting off in their boats while noting that "a man must not trust them for all their faire ceremonies and signes of joy, for if they had thought they had bene too strong for us, then would they have done their best to have killed us, as we understood afterward."

This statement could well be taken as the motto for the remainder of Cartier's stay in Canada. He reached Charlesbourg-Royal to find that the local Indians were no longer trading fish to the inhabitants of the fort, but were suspicious and fearful of the French. The reputation which Cartier and his men had established five years previously, as well as the forsaken promise to return the kidnapped people who had been shipped to France, had taken their toll. The obvious intention of the French to establish a permanent colony on Iroquois land, without permission and without any obvious benefit to the Iroquois, must also have been taken as an insult and a threat.

Only scattered fragments of information survive to tell us what happened during the following winter at Charlesbourg-Royal. The Indians never made a decisive attack on the fort, but seem to have waged an effective guerilla war. They first killed a party of woodcutters in the nearby forest, and then others who ventured from the fort; thirty-five Frenchmen are reported to have been killed. To those confined inside the fort, the winter must have been long and cold and miserable, aggravated by scurvy and other illness brought on by the absence of fresh food, and by the constant fear of attack. It is not surprising that by the following spring, Cartier had had enough of Canada. Soon after breakup, he abandoned Charlesbourg-Royal and set out down river.

Cartier must have followed his 1536 route homeward, through Cabot Strait and along the southern coast of Newfoundland. This time, however, he chose the harbour of St. John's to take on supplies before the Atlantic crossing. Here, by very unhappy accident, he met Roberval's fleet of three ships on their way to join his colony. Roberval ordered Cartier to turn around and return to Canada — probably the last place in the world that Cartier and his crew wanted to go. Accordingly, Cartier disobeyed his commander and slipped through the Narrows of St. John's harbour under cover of night. With a cargo of presumed gold, silver and diamonds that he hoped would offset the king's displeasure, he set a direct course for St. Malo. The cargo proved worthless, and Cartier's career as an explorer was over.

France-Roy

While Cartier was crossing the Atlantic for France, Roberval set sail for Canada by way of the east coast of Newfoundland and the Strait of Belle Isle. Cartier must have provided directions to his establishment, for Roberval sailed directly for Cap Rouge, landing there in late

Jacques Cartier ended his days at his small farm, named "Limoëlou", near Saint-Malo. The manor now belongs to the Macdonald-Stewart Foundation of Montréal.

July. Since there was no mention of Cartier's fort, we can assume that it had probably been destroyed either by Cartier or by the Iroquois. Roberval selected a nearby location and began to construct his own settlement, which he named France-Roy. It sounds like a more comfortable establishment than that of Cartier, with one of the two main sets of structures described as:

> *... a fayre Fort...wherin there were two courtes of buyldings, a great Towre, and another of fortie or fiftie foote long: wherein there were divers Chambers, an Hall, a Kitchine, houses of office, Sellers high and lowe, and neere unto it were an Oven and Milles, and a stoove to warme men in, and a Well before the house.*

Despite the fort's amenities, the winter again proved long and miserable. Two ships were sent home before the river froze, and after they had left it was discovered that food supplies were going to run very short. Scurvy set in and about fifty people, perhaps one-third of the company, died. One man was hanged for theft, and others put in irons. There is no mention of hostilities on the part of the Indians, and in the spring they arrived to trade fresh fish in return for knives and trinkets. This suggests that Iroquoian animosity was not directed against all Europeans, but that it was specifically Cartier and his actions that had aroused their hostility.

In the spring of 1543, Roberval set out to attempt what Cartier had failed to do, and travel to the fabled land of Saguenay. With seventy men in eight boats, he set out upstream toward Hochelaga. Nine days later one boat returned, with the information that a second boat had been lost with eight hands drowned. Four days later, another boat arrived, carrying sixty kilograms of Indian corn, either stolen or purchased from a village on the route to Hochelaga. This is the last we hear of the journey to Saguenay, and we may suspect that Roberval, like Cartier before him, was discouraged from further exploration by the rapids and by the relatively dense Indian population of Hochelaga, the territory around what is now Montréal.

When Roberval returned to France-Roy, it must have been apparent that there was little advantage to staying longer in the New World. There is no record of the abandonment of the second colony at Cap Rouge, nor of whether he too collected a cargo of spurious diamonds and gold from the site, but we know that by early autumn Roberval was home in France. Of the eight shiploads of colonists who had followed Cartier and Roberval to Canada with hopes of riches and fame, the only person who was still alive in the New World was the young woman whom Roberval had abandoned on a desolate island in 1542.

Canada Abandoned

With the return of Cartier and Roberval, France abandoned her St. Lawrence River discoveries for over half a century. Winters were simply too long and cold, the native peoples too numerous and too willing to stand up for their rights, and the profits too meagre to maintain a successful European colony. The St. Lawrence had dealt the French too many disappointments. First seen as a possible waterway to the Orient, it had turned out to be a huge freshwater river draining an unknown continent. Still hopeful, the French went on to populate the continental interior with an unknown land, the Kingdom of Saguenay, rich in metals, stones and spices.

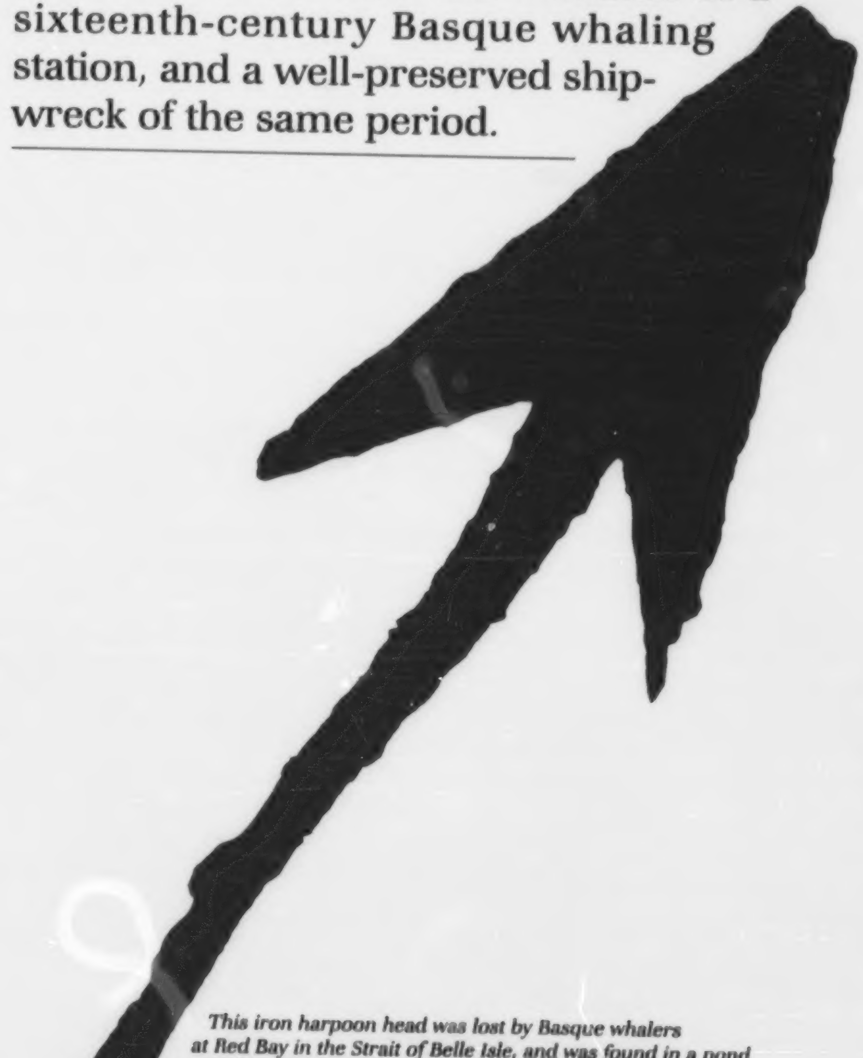
Belief in the fabulous Saguenay, a northern Mexico or Peru, died hard. Jacques Noel, Cartier's nephew and shipmaster, reported finding a map among the papers of his deceased uncle, with notes in Cartier's hand: to the west of Hochelaga, Cartier had written, "By the people of Canada and Hochelaga it was said, That here is the land of Saguenay, which is rich and wealthy in precious stones." To the south of this was another note: "Here in this Countrey are Cinamon and Cloves, which they call in their language Canodeta." Yet the belief in Saguenay was eventually killed by the hardships of the Lachine Rapids, and by common sense.

Finally, the rather pathetic efforts to dig gold, silver and diamonds from the very rocks on which he had built Charlesbourg-Royal, must have led to embarrassment, if not disgrace, on Cartier's final return to France. The King could no longer be interested in such a fiasco, and the St. Lawrence, like the rest of the New Found Land and the Land of the Bretons, was turned over to the exploitation of fishermen and whalers.

CHAPTER 10

THE GRAND BAY

The Labrador coast was the first region of North America to undergo extensive European exploitation. Recent archaeological work has recovered the remains of a sixteenth-century Basque whaling station, and a well-preserved shipwreck of the same period.



This iron harpoon head was lost by Basque whalers at Red Bay in the Strait of Belle Isle, and was found in a pond on Saddle Island at the mouth of the Bay. The letter "M" was perhaps an owner's mark, to identify the harpoon if it was carried away by a wounded whale (Length: 40 cm).

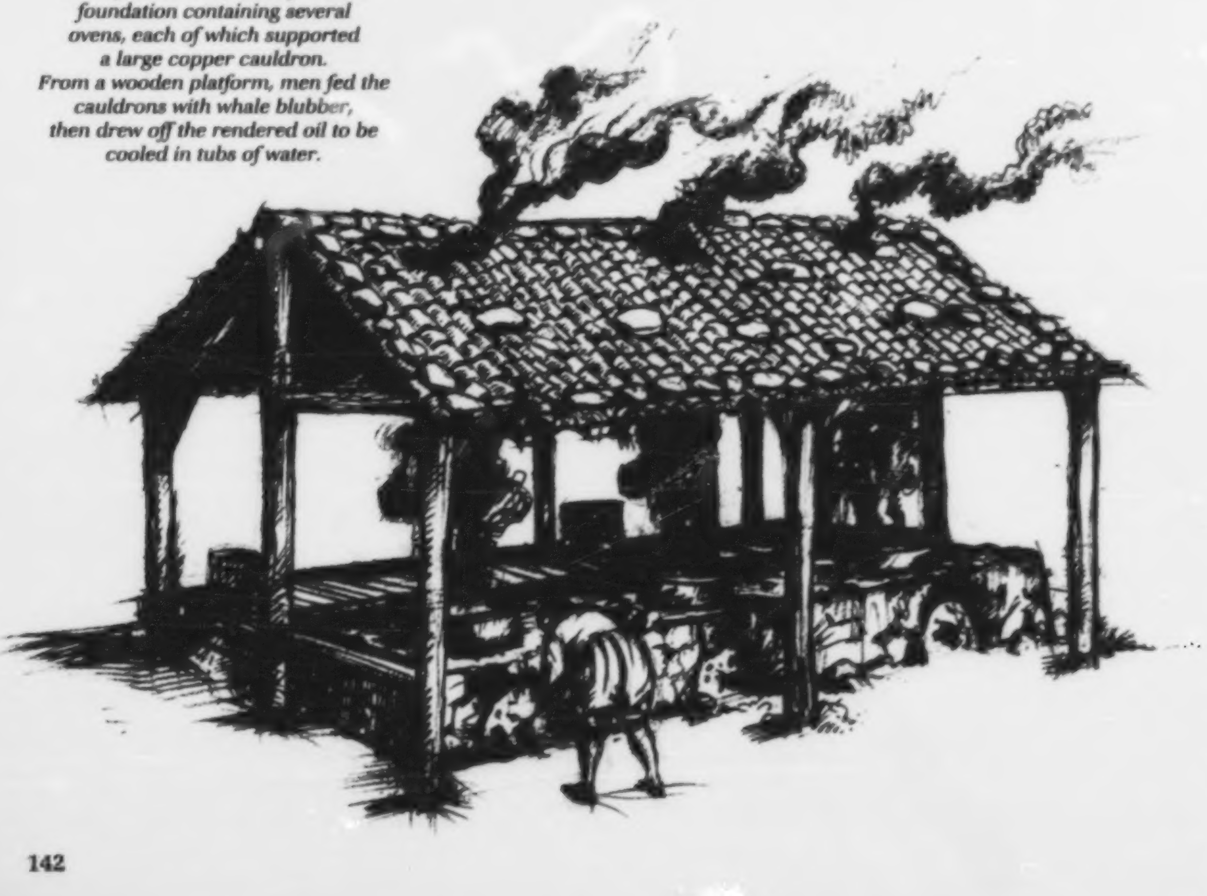
The Strait of Belle Isle, the narrow northern entrance to the Gulf of St. Lawrence, is a meeting place of the arctic and temperate zones. From the north comes the cold Labrador Current, carrying icebergs from Greenland and the pack ice that often fills the Strait until early summer. From the south flow the warmer currents of the Gulf of St. Lawrence, bringing nutrients gleaned by the rivers draining from the Great Lakes and much of eastern Canada. Both the currents and the abundant sea life they support are funnelled through the narrow waters of the strait.

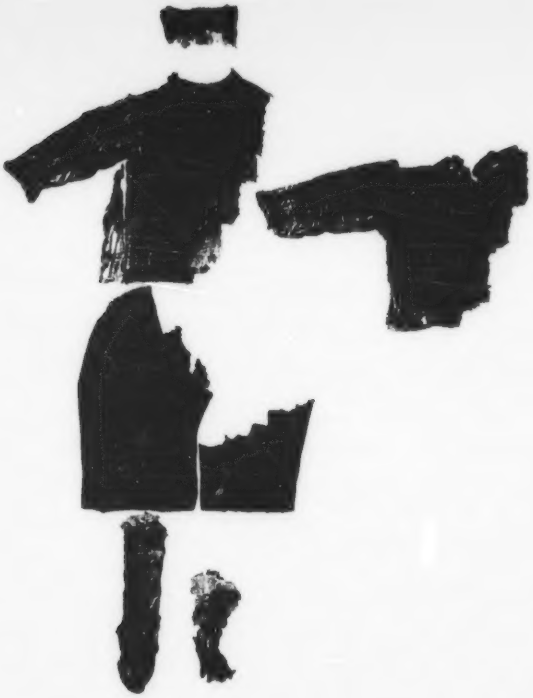
Some of the best salmon rivers of the Atlantic coast are found along these shores, vast shoals of capelin roll on the beaches each summer, and cod are plentiful. Massive herds of harp seals whelp on the spring ice after wintering in the gulf, then move northward through the strait to their Arctic summering grounds. In earlier times, herds of grey seals and walrus hauled out on local beaches, and large numbers of whales navigated the open waters of summer.

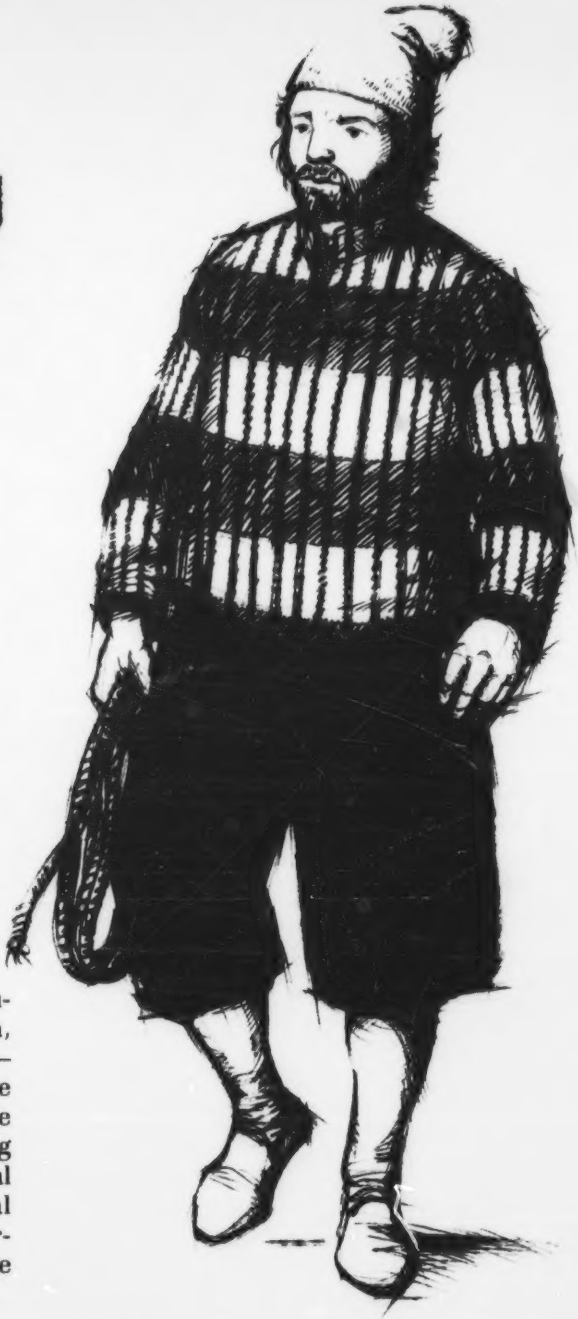
Humans have long known about the productivity of the Strait of Belle Isle. About 9000 years ago Indians had occupied the area, and by about 7000 years ago, they were living so well that they could afford to build a large burial mound at L'Anse Amour. About 3000 years ago the place of the Indians was taken by Palaeoeskimos from the north, who brought their Arctic hunting skills to bear on the area's rich sea-mammal resources. The Straumfjord (Current Fiord) of the Norse sagas — location of the short-lived Vinland colonies — was probably the Strait of Belle Isle. Five hundred years later, John Cabot's exploration of 1497 probably brought him to the general area, where he reported cod so plentiful that they could be caught by dipping baskets over the side of the ship. By the time Jacques Cartier explored the strait in 1534, European fishermen had already named many of the bays and harbours, and for the remainder of the sixteenth century the strait was one of the most heavily exploited areas of North America.

Although this exploration of the area has long been known to historians, few details of the sixteenth-century European occupation of

The tryworks consisted of a stone foundation containing several ovens, each of which supported a large copper cauldron. From a wooden platform, men fed the cauldrons with whale blubber, then drew off the rendered oil to be cooled in tubs of water.







The costume of this Basque sailor consists of a knitted cap, shirt, jacket, breeches and tailored wool stockings. One of the burials excavated from a peat bog at Red Bay was dressed in this fashion; the waterlogged acid soil had dissolved the skeleton but had preserved woolen clothing.

the strait could be found. Most of the early European visitors to the area — fishermen, whalers, traders and occasionally pirates — had a vested interest in keeping secret the source of their valuable cargoes, and they quite understandably left few records. Only during the past decade has a combination of archival research and archaeology begun to reveal something of the nature of one of the more organized ventures: that undertaken by Basque whalers from northern Spain.

A Discovery in the Archives

The first detailed information about the early whale-fishery in the Strait of Belle Isle was found by Selma Barkham, an archival researcher employed by the Public Archives of Canada. Barkham searched the archives of several towns and cities in the Basque region of northern Spain, and in poring through thousands of notarial documents — contracts, wills, lawsuits, promissory notes, insurance claims etc. — she found a number relating to the whale fishery in the "Grand Bay." The Grand Bay was the sixteenth-century name for the Strait of Belle Isle, and some of the locations mentioned can be located fairly precisely because they have kept their sixteenth-century names to the present day: the Basque *Xateau* became the French Baie des Chasteaux and the present Chateau Bay located just north of the strait; the Basque *Semadet* became St. Modeste, and the site of the recent settlement of East St. Modeste at the mouth of the Pinware River.

Archaeological confirmation of these and other Basque shore stations mentioned in the records was desirable, and in the summer of 1977 Barkham arranged to make a brief visit to the southern Labrador coast, along with James Tuck, an archaeologist from Memorial University of Newfoundland who had spent several summers researching the prehistoric occupations of the Strait of Belle Isle area. At several locations they found beaches and gardens littered with fragments of the red roof tiles that the Basques had imported for their structures. They also found a few structural remains which may have dated to the Basque occupation of the area.

Red Bay

The 1977 findings were so interesting that Tuck decided to return the following summer in order to excavate the most promising site, one located on Saddle Island in Red Bay. Red Bay is one of the finest harbours in the Strait of Belle Isle, and from old documents and maps it can probably be identified with the harbour of *Buttus*, one of the principal Basque shore stations. Saddle Island forms a plug in the mouth of the bay, a small treeless island aptly named for the hills at either end. On the harbour side of the island, several fragments of old stone walls were stained with a black material, which was identified as burnt whale oil. Excavation proved the walls to be the remains of the ovens where whale blubber was tried into oil, the most important product of the whale fishery at that time.

This illustration shows the activity of a Basque whaling station in the Strait of Belle Isle around 1580. After having towed the whale ashore with capstans, butchers climb over the carcass and remove the blubber in long strips which are lifted by a crane. On the working stage, other men cut the blubber into cubes which are rendered to oil in large cauldrons. Cooled and purified, the oil is poured into barrels and towed behind boats to the waiting ships.

The largest of the oven areas consists of a stone wall ten metres long, one metre wide and over one metre high; on the shore-side, offshoots from the wall separate five fireboxes in

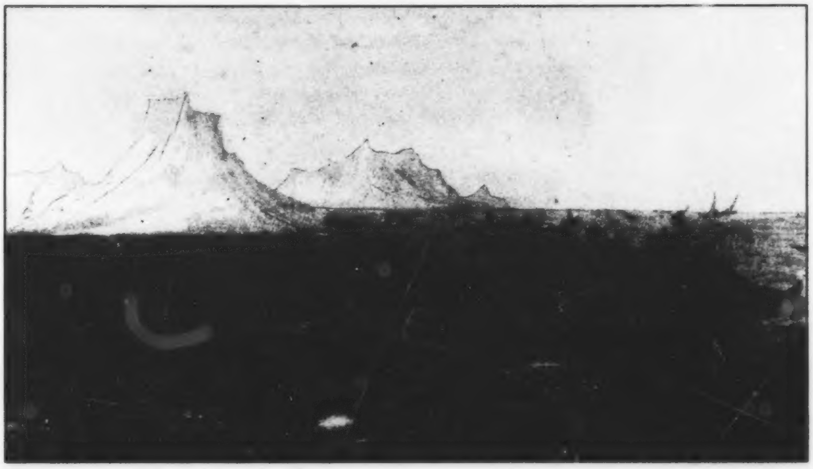
The cooper and his helpers were charged with assembling and repairing the barrels that would be used in transporting whale oil to Europe. Prefabricated in Europe, the barrels were disassembled to save space on the trip to Labrador. The photograph shows a complete barrel recovered in pieces from the wreck in Red Bay.

Whales and Whalers

Over 30 species of whales occupy, or at least visit, the waters off Canada's coasts. These include playful human-sized porpoises and dolphins; the small white beluga and the unicorn-tusked narwhal of Arctic waters; the elegant and deadly killer whale; and the massive sperm whale which feeds on giant squid taken from the depths of the ocean. All of these species are "toothed whales" with rows of peg-like teeth which are used to capture fish or (in the case of the killer whale) sea mammals and other whales. Fortunately for these creatures, the Industrial Age has never found a major use for their bodies. The products which are taken from these whales — beluga skin for the Inuit diet; narwhal tusk for the ivory and curio trade; killer whales for aquarium entertainment; and the teeth, spermaceti and ambergris of the sperm whale — have not justified an all-out hunt to the death of the species.

The whales which have suffered most from human industry are the "baleen whales," creatures as large as the blue whale that can attain a length of over 30 metres and a weight of over 140 tonnes. Unlike the toothed whales, these animals feed entirely on tiny shrimp-like crustaceans called "krill," which float throughout the seas and are concentrated in northern latitudes. Baleen whales live by filtering the krill from seawater through great panels of baleen, a tough, flexible plastic-like material which hangs in curtain-like rows in their mouths. They

Until recently, Portuguese whalers from the Azores hunted whales from small open boats. This photo was taken in 1975.



North Alaskan whalers hunted whales from large skin-covered boats called umiat. *The Eskimos of southern Alaska hunted whales from kayaks, using lances smeared with a poison derived from aconite.*

swim more slowly and are more easily captured than toothed whales, yield vast amounts of oil and meat, and the elastic baleen has found numerous uses as springing for nineteenth-century carriages and upholstery, as the "whalebone" of corsets, and even as springs for wind-up toys.

In the early days of whaling, efforts were concentrated on two closely-related northern species, the North Atlantic right whale and the Arctic bowhead. Besides yielding huge amounts of whale oil and baleen, these animals are slow-swimming and docile, easy to approach and harpoon from a small boat. More importantly, they float when killed. Because of these characteristics, they soon became known to early English whalers as the "right" whales to pursue, and the name has stuck. The English, however, were latecomers to the art of whaling.

The large baleen whales of the Atlantic Ocean were initially hunted by two very different peoples. The first were probably the Inuit of Arctic Canada, who arrived on the fringes of the North Atlantic about A.D. 1000, bringing with them the techniques of whaling which had been developed in Alaskan and North Pacific waters. The Inuit hunted whales from skin-covered "umiaks" up to 10 metres long, using large toggle-headed harpoons carved from whale bone or ivory, attached to a line carrying floats or drags which would impede the escape of a struck whale. About the same time, and certainly before A.D. 1200, the Basques of the Bay of Biscay coasts began to develop a similar hunt from wooden rowing boats about the same size as the Inuit umiak, using barbed iron harpoon heads attached to a line with wooden drags to slow the whale.

During the sixteenth century, these two whaling peoples met on the coast of Labrador. By the end of that century, the whaling effort at stations such as Red Bay had proved so effective in depleting northwestern Atlantic whale stocks that it put an end to both the Basque Labrador fishery and the Inuit whale fishery in the eastern Arctic. In the following centuries the Basques became the harpooners and mentors for the Dutch and English whaling fleets which preyed on newly discovered populations of baleen whales in Greenland and Spitsbergen waters. When these whales had been hunted out, the Inuit extended their traditional whaling techniques to become harpooners and contract-hunters for the Scottish and American whalers who began to penetrate the ice-covered waters of Arctic Canada during the nineteenth century.

The Arctic hunt was over by the beginning of World War I, with the depletion of the final bowhead populations of the North Atlantic. From their summer feeding grounds off Labrador, to the High Arctic "nursery" grounds which were finally reached by the steam-driven whaleships of the late nineteenth century, the bowheads were hunted to near-extinction over four centuries. The bowheads and their relatives, the sadly-named right whales, are among the rarest of sights off Canada's coasts today.

which the oil had been tried in large copper cauldrons. The fireboxes were built of sandstone, probably brought from Spain as ballast. The Basques must quickly have learned, as Tuck did by experiment, that the local granite soon crumbled in a hot fire. Fragments of copper in the fireboxes are probably evidence of more spectacular problems, when cauldrons broke and released up to 200 litres of flammable whale oil into the fire below. On the inner side of the wall, opposite the fireboxes, are the remains of a wooden platform from which men fed blubber into the cauldrons and ladled out oil to be cooled and clarified in tubs of water. A layer of tiles over the entire feature indicates that the structure had been roofed. Five such structures were found along the eastern shore of the island, two of them associated with the remains of stone and timber wharves or slipways where the whales had been flensed.

During 1978 and in the following years, Tuck and his team went back to Red Bay, each year locating more evidence of Basque activities. Three structures, marked by broken roof tiles in large rectangular patches measuring up to 8 by 14 metres, are obviously the remains of houses or workshops. From these came fragments of pottery and glassware, a coin minted in Toledo during the reign of Philip II, a key, a rosary, knives, adzes, the tongue of a woodworking plane, a portion of a saw blade, and other artifacts. The presence of woodworking tools suggested to the team that these buildings were coopers' shops, where the barrels used to ship whale oil were constructed. This was confirmed when a boggy area beside one of the shops was excavated and found to contain waterlogged and well-preserved barrel parts and the refuse of barrel-making. The glassware and pottery, as well as several personal belongings recovered from the cooperages, were of considerably better quality than those found around the oven areas, suggesting that the coopers had a higher standard of living than did the men who flensed the whales and stoked the ovens. This is not surprising, considering that the safe transportation of whale oil from the Grand Bay to Europe depended on the skill and care of the coopers.

The hearths and animal-bone refuse suggest that the coopers may have lived in their shops, which were comfortably roofed and upwind from the tryworks. Other small hearths are scattered over the island, generally in small sheltered nooks between outcrops of bedrock; the presence of occasional potsherds, and fragments of baleen (possibly used to roof these tiny shelters) suggest that these may have been the cramped, smoky and very uncomfortable sleeping places of the other men who worked at the station.

Sunken Ships

Evidence of another important part of the whaling operation came to light in 1978, when

A model of the whaling ship was built on the basis of information recovered by the underwater excavations. This shipwreck has considerably increased our knowledge of galleons, and of sixteenth-century naval construction.

An archaeologist works on the wreck of a Basque whaling ship, found in 1978 close to Saddle Island. This could be the San Juan, *which was driven aground in a storm in 1565, while fully loaded with whale oil and ready to leave for Europe. Hundreds of barrel staves and heads were found in the wreck.*

Robert Grenier of Parks Canada led an underwater survey of the area and discovered the well-preserved remains of a sunken ship only 30 metres offshore from the Saddle Island station. In subsequent years Grenier and his team of underwater archaeologists excavated portions of the 300-tonne ship, recovering its compass, anchor, capstan, transom, rudder, and a loaded swivel gun. The wreck was littered with thousands of barrel staves and heads identical to those found ashore, and those in the midship area were so little disturbed that it was possible to reconstruct how the barrels had been stacked in the hold.

A trench excavated between the wreck and the shore station showed a continuous layer of wood chips, artifacts, and whale and codfish bones, indicating that the wreck and the shore station were contemporaneous. We may even know the name of the ship and the date of its sinking. Records of a lawsuit found by Barkham in Spanish archives refer to a ship named the *San Juan*, which in late 1565, fully loaded with whale oil and ready to sail for Europe, was blown aground in Buttus harbour and sunk with no loss of life. Although it is impossible to prove that the wreck is the *San Juan*, the identification seems plausible. In any case, the work of Grenier and his team has recovered not only evidence of another aspect of the Basque whale fishery, but also important information on poorly known sixteenth-century naval architecture.

Whaling in the Grande Baie

The combination of Barkham's archival research, Grenier's underwater investigations, and Tuck's dig on Saddle Island has put together a remarkably complete picture of the early Basque whale fishery in southern Labrador.

In the spring of each year during much of the late sixteenth century, ships like the one

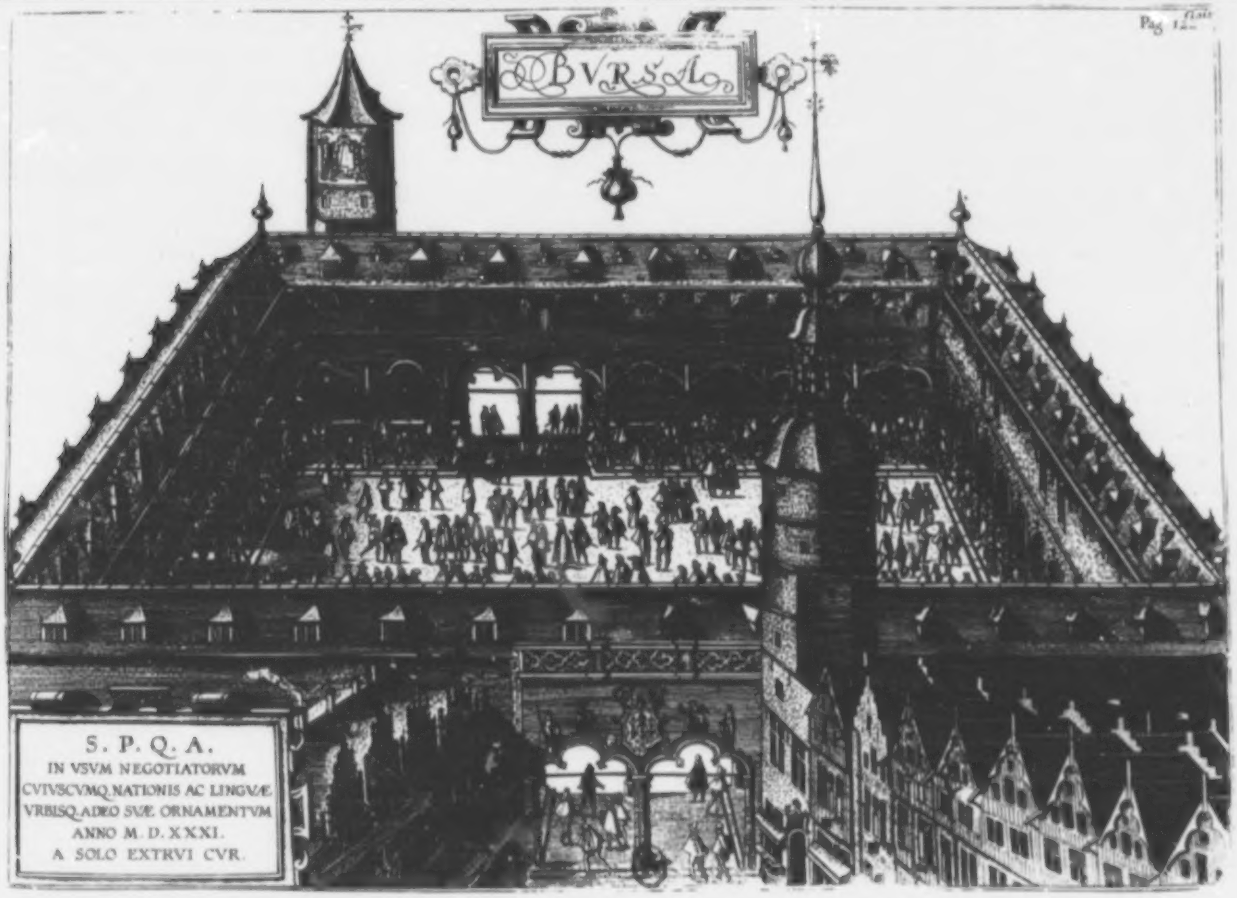
Capitalism, Discovery and Exploitation

The successful exploration and exploitation of the New World did not simply grow out of the maritime abilities which Europeans had developed by the sixteenth century. These ventures certainly depended on the seaworthy vessels and navigational abilities of the period. However, they were also dependent on the growth of commercial structures which allowed the concentration of capital needed for distant exploration, and which also permitted the reliable and efficient distribution of profits among the investors in such enterprises.

The Irish monks who traversed and made discoveries across at least a portion of the North Atlantic during the Middle Ages, did so as individuals simply searching for a place to live a life of poverty and contemplation. The Norse who followed in their wakes had greater ambitions, but little means to bring about their fulfillment; they were led by local chieftains who had little backing other than their own strength and authority, and whose only wealth came from farming marginal lands or from Viking raids in foreign territories. Neither the Irish, the Norse, nor any other mediaeval Europeans could have assembled the human and financial support needed to establish a successful colony or base of exploitation in North America, or even to undertake significant exploration of the continent.

During the centuries which separated the voyages of Eirik the Red and Columbus, Europe underwent a vast social and economic change from a mediaeval continent where wealth and power was measured in land, to a mercantile society in which monetary power was the basis of national and royal might. The change was pioneered by the cities of northern Italy, who were the primary beneficiaries of the twelfth and thirteenth-century Crusades to the Holy Land. Not only were Italians contracted to transport crusaders and supplies to the Middle East, but they were the first to gain a foothold in the trade which the Crusades opened with the countries of the Orient. In 1252 Florence issued the gold "florin," the first gold coin to be widely traded in Europe for 500 years, and soon emulated by other "great coins" issued in Italy and elsewhere. The simple existence of a valuable and widely-recognized currency, instead of the small silver coins which in earlier times had

Lyon was a financial and commercial centre whichplayed an important role in transatlantic discovery. Verrazzano's voyage of exploration was financed by the Florentine and French bankers of the city.



During the Age of Discovery, Antwerp was a leading European financial centre, and its stock exchange attracted bankers from many countries.

been traded largely by weight, was one of the necessary prerequisites for the efficient expansion of trade.

The development of banking systems also facilitated the growth of commerce and trade. By about 1275 the city of Siena had become the banking centre of Europe, later to be overtaken by Florence whence the Medici bank established branches throughout the continent. With the establishment of such banks, merchants could make payments across Europe through paper transfers rather than the physical transfer of coin, and could safely invest the profits of their enterprises. The twelfth- and thirteenth-century onslaught by the Church against usury, the collecting of interest on money loaned, probably reflects a widespread employment of the practice. The campaign against usury had little effect, since usury was not against the laws of Judaism, nor of Byzantine and Syrian Christianity. Roman Christians habitually disguised interest payments as gifts, bonuses or rates of exchange on investments made in a foreign currency. Throughout the period, there was an apparent growth in investment and in the availability of credit, which in turn facilitated the growth of trade.

Other developments which allowed the expansion of overseas trade and the exploitation of overseas resources included contracts of partnership, between the investors who backed an enterprise and the shipowners or captains who undertook the venture; insurance contracts, or loans which had to be repaid only if the venture was successfully concluded; and risk-sharing schemes in which several investors held shares in a vessel and in its voyage. For ventures which required considerable manpower, such as fishing, whaling or piracy, a system of payment was developed whereby each officer and crew member was paid a fixed share in the profits of the voyage.

From the pioneering ventures of Columbus and Cabot, all New World voyages of the sixteenth century had a commercial motive, whether it was the opening of trade with the Orient, the pillaging of New Spain, or the plunder of the fish and whale resources of the New Found Land. Their successful organization and achievement depended as much on the newly-developed European techniques for concentrating, manipulating and investing capital as on the increase of maritime skills and technology.

found in Red Bay set sail from northern Spain bound for the Grand Bay, loaded with rock ballast, barrel heads and staves, food supplies, and whaling gear. On their arrival at the shore station, structures that had been damaged during the previous winter were repaired by the voyagers, using local timber and imported roof tiles. The hunters then rowed out into the strait in their small whaling shallops (the remains of two such boats were found in the underwater excavation) in search of the slow-swimming right and bowhead whales.

The whales were harpooned (an iron harpoon point 40 centimetres long was found in a pond on Saddle Island) and killed with lances, then laboriously towed back to the station and grounded at one of the slipways. Men with long flensing knives stripped the blubber from the whale, which was then towed from shore and allowed to sink or to wash ashore in Red Bay, where in places the shores are still littered with whale bones. The blubber was cut into chunks and carried to the tryworks, where the oil was rendered over fires of wood and blubber.

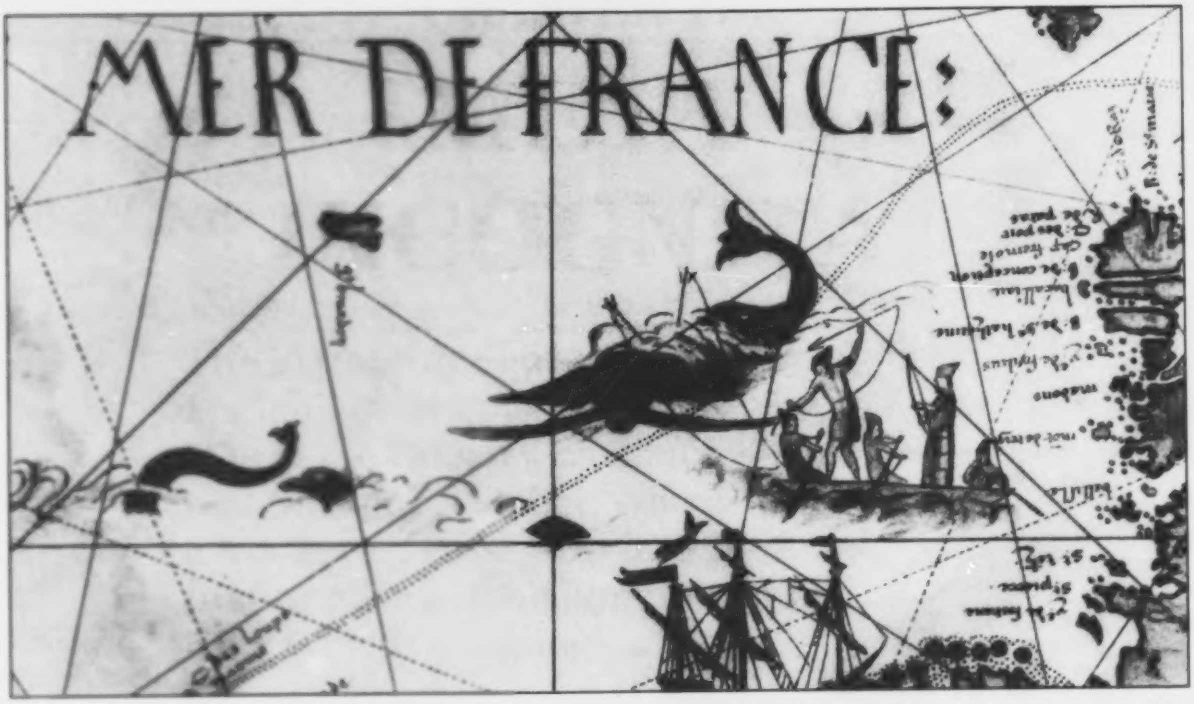
Meanwhile the coopers were repairing barrels and constructing new ones from parts brought from Spain. Filled with oil, the barrels were rolled to the beach and towed out to the ship anchored offshore. When whales were scarce and work slow, the men devoted their time to jigging for cod, which were split and dried either for their own use or, more likely (to judge from the large number of cod bones found on the bottom just off the station) as additional cargo for Europe. At other times, when several whales had been towed to the beach, the trying furnaces must have flared through the night. By late autumn the ship's holds would have been filled with casks of oil (the *San Juan* had 1,000 barrels aboard when she sunk) and bundles of dried fish, with the crew anxious to begin their slow passage home before being caught by winter ice.

This illustration of a whale hunt is placed in the vicinity of Iceland on a Spanish map of 1413. The presence of a bishop on the ship also recalls the legend of St. Brendan.

Such a successful voyage was very profitable for the owner of a whaling ship; in 1571 one cargo of oil was insured for a value equal to that paid in the same year for the purchase of two large galleons. The whalers, coopers and other workers were paid on a share system, and must have received enough to attract them year after year to a hard life on this cold coast so far from their homeland. Occasionally the men paid with their lives for the opportunity of working in the Grand Bay. The worst misfortune, other than a sinking, was to be caught by the early formation of winter sea ice, forcing a winter stay in Labrador. The archival documents mention several such events, some of which resulted in deaths from cold, hunger and scurvy. Tuck's unexpected discovery, in 1982, of ten skeletons on Saddle Island may relate to one such occurrence. The men had apparently been laid out on the ground surface instead of being buried, indicating that their deaths had probably occurred during the winter when the ground was frozen. The fact that they had not been buried during a subsequent whaling season suggests that they may have died toward the end of the Grand Bay whale fishery, late in the sixteenth century. Many other burials have since turned up, over 140 in all, consisting of individual and mass graves, and one case of 12 or 13 bodies which were simply tossed into a pit, perhaps the record of another overwintering disaster.

The Whalers Disappear

The end of the whale fishery in the Strait of Belle Isle was probably due to a combination of factors. The intensive hunting of the previous several decades almost certainly brought about



The cartographer Pierre Desceliers drew this picture of whalers near the Strait of Belle Isle on his map of 1546. This is the earliest illustration of whaling on a map of the New World.

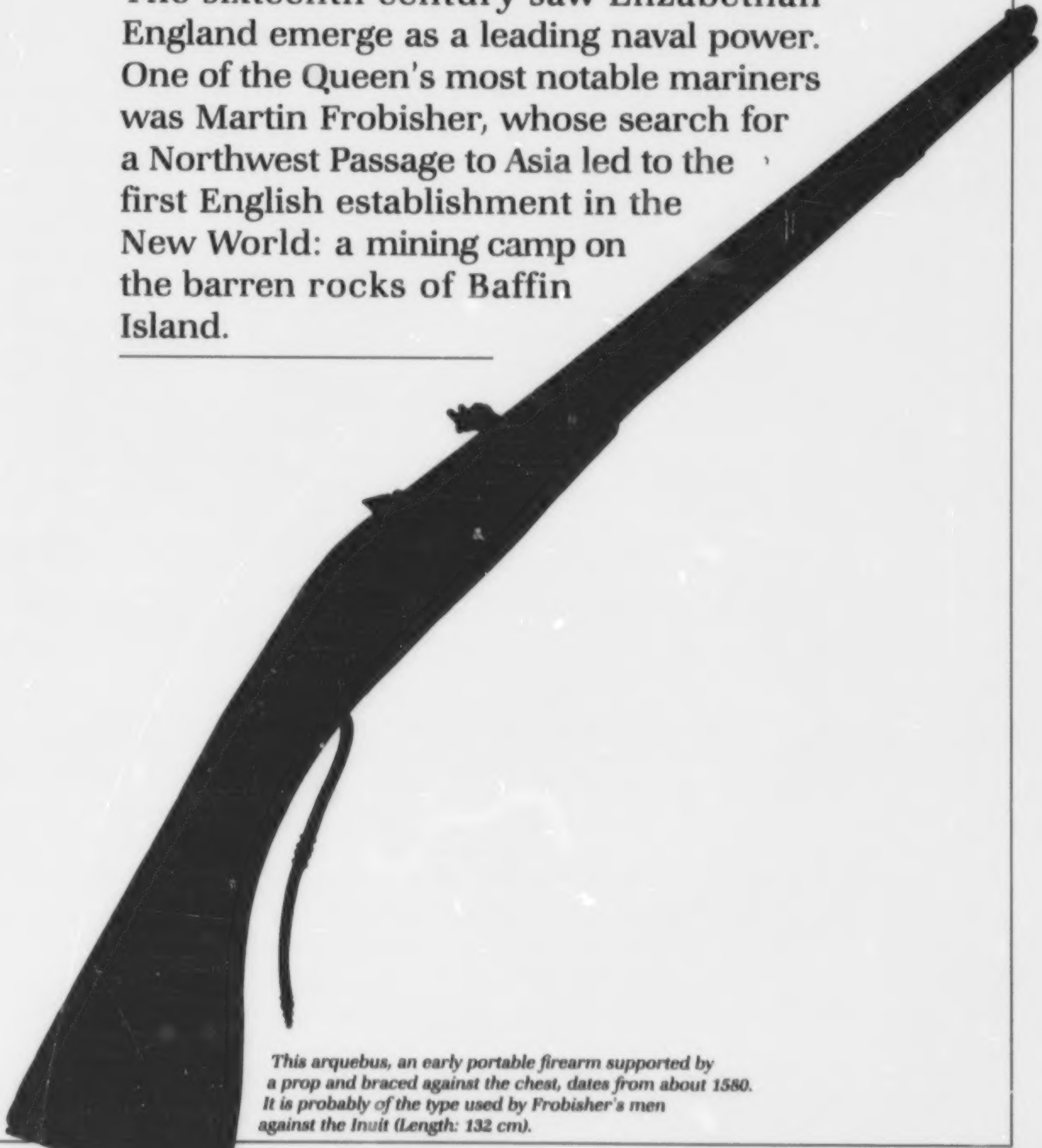
a decline in the local whale stocks, making hunting more difficult. An upsurge in Dutch, French and English privateering in the North Atlantic at that time probably caused some problems for the whalers, and many of the whaling ships were commandeered and lost in the Armada sent against England in 1588. Also, at about that time there were reports that French fishermen in northern Newfoundland and the Gulf of St. Lawrence were suffering attacks from local Indian populations, and perhaps from Inuit who may have begun to travel south from their northern Labrador homeland in order to trade with or plunder European fishermen. During the following centuries several accounts tell of the depredations of the Inuit, including the burning of unattended boats and shore stations in order to recover iron nails, which could be refashioned into useful artifacts. In 1986, Tuck excavated a number of hearths on the west side of Saddle Island; around them were scattered the stone tools used by local Indians of the time, as well as nails and other artifacts that had come from the Basque station, probably plundered in the early spring before the Basques returned for the summer hunt.

Whatever the cause, by the early seventeenth century all that remained of the Grand Bay whale fishery were the records of contracts and lawsuits scattered through the archives of northern Spain, a few sunken ships, and the crumbling stone walls, broken roof tiles and the bodies of dead whalers slowly being covered by the turf of the southern Labrador coast. Yet from these remnants it is possible to construct at least the outlines of one of the earliest European occupations of the New World. In very characteristic European fashion, this occupation was an industrial enterprise. Also characteristically, it probably resulted in the virtual destruction of a local resource — the whale population of the northwestern Atlantic.

CHAPTER 11

META INCOGNITA

The sixteenth century saw Elizabethan England emerge as a leading naval power. One of the Queen's most notable mariners was Martin Frobisher, whose search for a Northwest Passage to Asia led to the first English establishment in the New World: a mining camp on the barren rocks of Baffin Island.



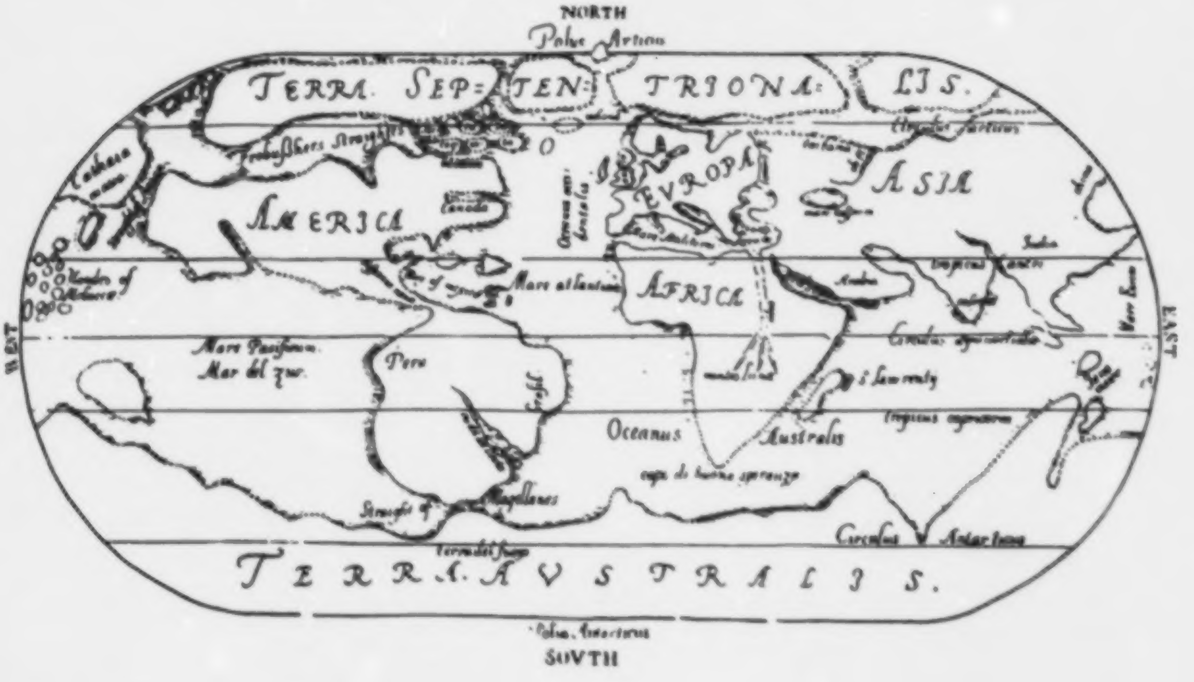
This arquebus, an early portable firearm supported by a prop and braced against the chest, dates from about 1580. It is probably of the type used by Frobisher's men against the Inuit (Length: 132 cm).

For over four centuries, Europeans have sought a sea route across the northern edge of the North American continent. Although such a route was actually discovered during the last century, fewer than three dozen passages have been made to date. The route is not commercially practicable even with current marine technology. With ice-breaking tankers and freighters now being designed, the dream of the Northwest Passage may become a reality in the coming decades. Powered by massive engines, their path through the ice fields scanned by radar and satellite cameras, these huge ships will be designed to move through the heaviest ice conditions of the polar seas.

It has taken 400 years to develop a technology capable of subduing the ice of the Northwest Passage sufficiently to permit commercial sea traffic across the top of the continent. The crews of these ships of the future, working in a climate-controlled bridge and plotting their course and position with electronic instruments, will rarely have occasion to examine the shores of the channels through which they pass. However, in the distance they may occasionally glimpse the marker-cairns and other remains left by earlier, unsuccessful attempts to locate and navigate a Northwest Passage.

The first such voyages to leave a permanent mark on the Canadian landscape were those of Martin Frobisher in the years 1576 to 1578. Frobisher's expeditions grew out of the rapid expansion of English sea power and oceanic trade which occurred during the reign of Elizabeth I. The Elizabethan period is still revered as a "golden age" of English culture and enterprise. It was an age in which the finest products of the European Renaissance finally reached England, changing the country from a feudal state into a mercantile nation. New continents, new theologies, new insights into the natural world and human society, were subjects of wide public interest, and they were rapidly transforming the English view of the world. So much poetry was being written — Shakespeare was only the first

Canada's first gold rush occurred in 1577, when the explorer Martin Frobisher's search for a Northwest Passage was diverted by the discovery of a rock sample thought to contain gold. The find encouraged two ventures to Baffin Island in 1577 and 1578. The 1578 endeavour included 15 ships and 400 men, and was the largest Arctic expedition ever assembled.



This map shows "Frobushers Straightes" leading to "Cathaia" (China) across northern North America. These straits provided a short and easy route to the Orient according to George Best, one of Frobisher's captains who published the map in 1578. The map was probably drawn by James Beare, principal surveyor of the Frobisher expeditions. The name Meta incognita *identifies a group of islands at the entrance to the strait.*

A description of the Arctic dress of English sailors survives from an expedition of 1602. The leather pants are lined with sheepskin, as is the long jacket fashioned with a fur hood. The costume is completed with fur-lined mittens, woollen stockings and leather boots.

among many of almost equal talent and productivity — that one suspects that the people of the time generally conversed in blank verse. There was little distinction between the poet, scientist and the man of action, or between actions in the fields of private enterprise and state policy. The latter distinctions were no more blurred than in the fields of maritime commerce, where privateering intergraded with piracy, and where mercantile endeavours were closely tied to political aims.

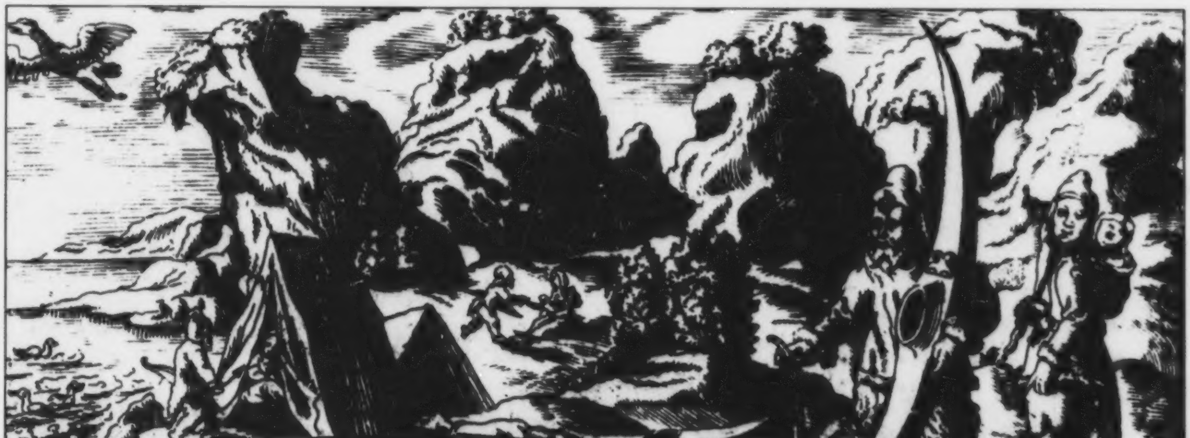
English ventures into the newly discovered worlds of the sixteenth century can be seen as an indirect result of the marital habits of Queen Elizabeth's father, Henry VIII, which brought about his break with the Church in Rome. As a result, England was no longer bound by papal decisions, including the one that allotted all newly discovered continents to either Spain or Portugal. As a boy of fourteen, Martin Frobisher survived one of the first English ventures into Portuguese territory, an expedition to obtain spices and gold from West Africa; it returned vast profits, but left more than two thirds of the crew dead of fever in the African summer. Ten years later, as the result of another interloping trade expedition, he spent a few months as a prisoner in a Portuguese fortress in what is now Ghana. Frobisher's African experiences may have led him to look for healthier work in colder climates. He spent some time as a sucessful privateer, sometimes veering into piracy since he is known to have looted at least one English cargo. By the 1570s his name was associated with a scheme for the discovery of a "Northwest Passage" to the Orient, a scheme which also involved the illustrious Sir Humphrey Gilbert and other notables.

Gilbert was, in fact, the author of a tract which was published in order to attract interest in Frobisher's venture. Using all recognized geographical knowledge, both ancient and recent, Gilbert concluded that the continent "commmonly called America" was "an Iland environed round with Sea": to the south was the Strait of Magellan, on the west the Mar del Sur (South Sea, now the Pacific), and on the east the West Ocean (Atlantic). Finally, to the north, was "the sea that severeth it from Greenland, thorow which Northern Seas the Passage lyeth, which I take now in hand to discover." He saw a Northwest Passage as a means by which England could take the lucrative Oriental trade from the Spanish and Portuguese, whose southerly routes were proven, but long and expensive. England would gain a monopoly on goods found in lands yet undiscovered, and could use "some part of those countreys" to settle "such needie people of our Countrie which now trouble the common welth, and through want here at home, are inforced to commit outragious offences, whereby they are dayly consumed with the Gallows." Gilbert's tract is a curious forerunner of the colonization proposals that would become common in the British Isles two or three centuries later, and which resulted in a considerable part of the early settlement of eastern Canada.

The Northwest Passage

The search for a Northwest Passage was not new in Frobisher's time. John Cabot was looking for such a passage when he made his 1497 discovery of the New Found Land. Some of the Portuguese voyages, which resulted in the rediscovery of Greenland about 1500, may have been stimulated by hopes for a route to Asia. However the reports which these expeditions brought home, if they returned at all, were of nothing but storms, barren, rocky lands and ice-covered seas. Sebastian Cabot, the son of John and a man who gained a reputation for reporting voyages that never took place, may have made an expedition to what is now Labrador in 1508, and he may have entered Hudson Strait. Another voyage, sailing in 1527

In entering the bay which now bears his name, Frobisher's men encountered a number of men "in small boates made of leather." This engraving, imaginatively portraying a group of Inuit, was based on information from the Frobisher expedition. The man in the kayak is hunting birds with a barbed dart propelled by a spear-thrower.

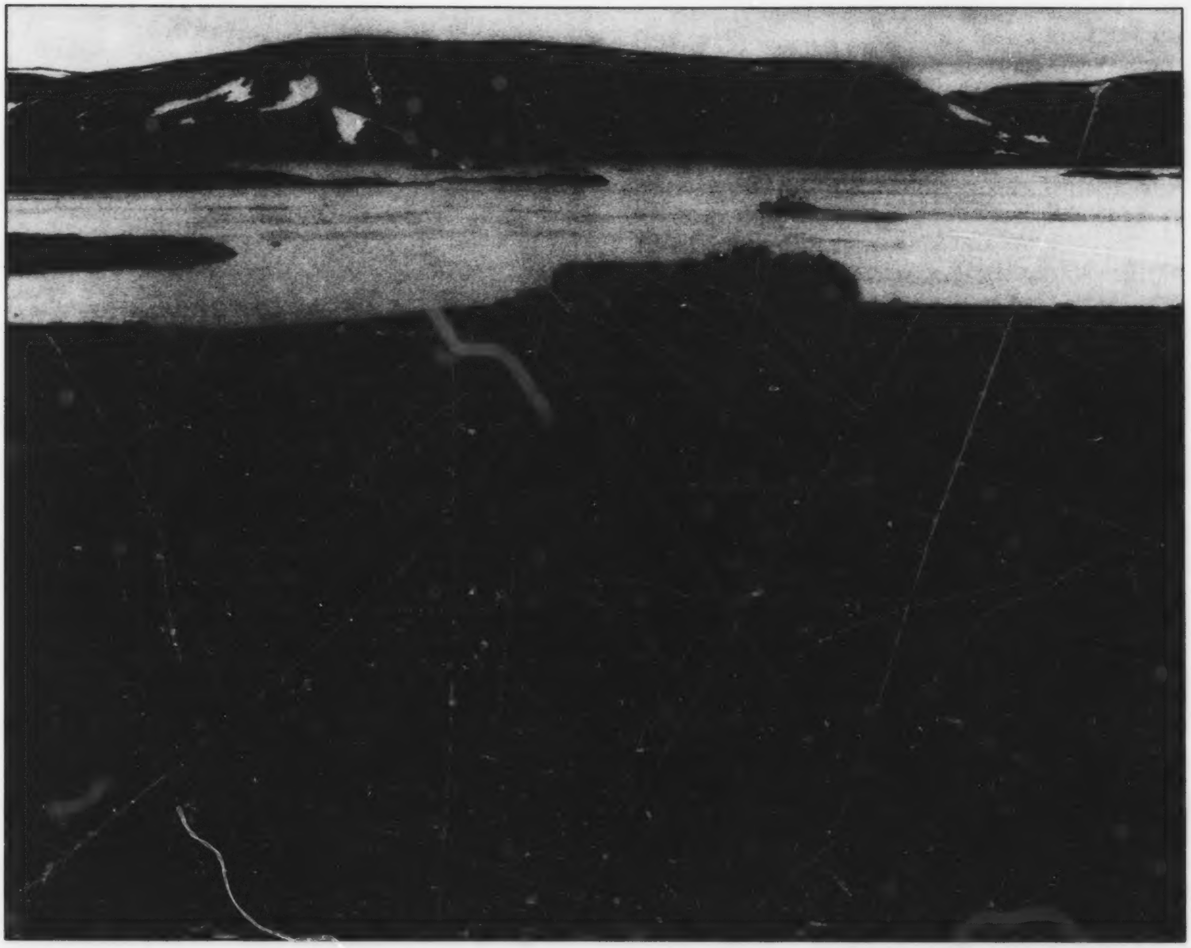


under the Bristol master John Rut, seems to have been aimed at the eastern Arctic but, after the first view of sea ice, headed southwards and ended in the Caribbean. Aside from these few voyages, Europe seems to have lost interest in a Northwest Passage through Arctic waters very early in the sixteenth century.

Why, then, was the idea revived much later in the century? The new interest may have been aroused by casual, accidental and unrecorded voyages to the far northwestern Atlantic. As we have seen in earlier chapters, by mid-sixteenth century the fishing banks off the Newfoundland coast had been heavily populated by French, Portuguese and Spanish fishermen. The Basque whaling fleet was intensively working the waters off the southern coast of Labrador. Trading for furs with the native peoples of eastern Canada was an increasingly lucrative sideline to many fishing and whaling voyages, and encouraged ventures to previously unfrequented coasts. The Inuit whom Frobisher encountered on Baffin Island had iron-tipped weapons, and seemed to have been in recent contact with Europeans — perhaps fishermen or whalers strayed from the fleets working the Labrador Sea to the south. Tales of new lands, or of newly discovered westward-leading channels sighted by lost or storm-driven mariners, may have been reinforced by remnant knowledge of the Norse geography of Greenland and adjacent areas.

In sixteenth-century Scandinavia, there appears to have been continued interest in the fate of the Norse colonies of Greenland, which had been out of regular contact with Europe for over a century. A crusade was mounted in 1520 to regain Greenland from the heathen, but it never set sail. The twentieth-century explorer Vilhjalmur Stefansson, who carefully edited and analyzed the reports of Frobisher's voyages (and who knew by first-hand experience the importance of vague hints in directing an explorer's course of action) thought it likely that Frobisher not only knew where he was going, but also knew the actual sailing directions preserved from Norse times in Greenland. These sailing directions came originally from the report of Ivar Bardarson, the Church official who had been sent about 1350 to learn the fate of the Western Greenlandic Settlement. This report was available in a German translation by 1560 and, Stefansson thinks, was probably circulating in the original Latin at least a century earlier. The availability of such documents may have stimulated Frobisher's interest, and that of other Englishmen, in revisiting the once-known lands and seas of the far northwest.

Frobisher's Routes



This is one of the two large mines dug in Kodlunarn Island. In the course of two expeditions, 1,500 tonnes of rock were quarried from the area, at the cost of 40 human lives.

Frobisher's First Voyage

Frobisher's first voyage was organized and financed by certain merchants of London, with the assent of the Queen and a licence issued by the newly-formed Muscovy Company. A small ship, the *Gabriel*, was built for the voyage; a somewhat larger vessel named the *Michael*, and a tiny pinnace for inshore work, were purchased. These ships may have reflected Frobisher's experiences in privateering, where small and fleet ships capable of running through inshore waters were often at an advantage. All three ships were certainly smaller than the vessels used by Columbus, Cabot, Cartier, or any of the early transatlantic venturers whose ships we know, and were manned by a total crew of only 35. The ships were outfitted with the latest in maps, texts on geography and navigational instruments, and supplies, including 600 litres of aqua vitae.

The small fleet left London in early June, Queen Elizabeth waving farewell from a window at Greenwich. Soon after leaving the Shetland Islands, they met a storm and the small pinnace was lost with all four hands; ships of this size were generally carried on the decks of larger vessels, and Frobisher was probably unwise to have tried to sail his across the North Atlantic. Two weeks later, they were off the east coast of Greenland, where the *Michael* turned back in sea-ice and storm, reporting that Frobisher's ship had been lost. This report was either mistaken or untrue, for Frobisher's remaining ship and its crew of 18 men sailed around southern Greenland and on to the west, where they discovered a high rocky country which they named "Queen Elizabeth's Foreland" (the present Resolution Island).

The Archaeology of Maps

Long before the first European ship appeared along the eastern coast of the New World, every cove and creek and sandbar of that coast was already named in a local aboriginal tongue, from the Inuit language of the Arctic to the Yahgan language of Tierra del Fuego. Very few of these names survived to appear on modern maps. One of the privileges of a European explorer was to give names to the geographical features he encountered, and few explorers ever gave a thought to the fact that these features were already named.

Most explorers took the procedure of naming quite seriously; Jacques Cartier, for example, conscientiously noted in his journal the reasoning behind most of the names which he applied. They usually referred to the explorer's patrons, the saint on whose day the feature was discovered, a peculiarity of the feature itself or an event that occured at the time of discovery. The names were almost always given in the language of the explorer, or in that of his royal patron if they differed. The history of exploration can therefore be traced in the languages of the place-names on various coasts.

The earliest European place-name which still survives in the New World is "Greenland," the name given by Eirik the Red to attract settlers to his new country. No other Norse names survive in the regions west of Iceland; although the sagas and other records tell us of many mediaeval Norse place-names in the New World, the knowledge of their locations died out with the Norse Greenlandic colonies. Similarly, there are no surviving place-names which originated from John Cabot's or other early English explorations of the east coast; again, Cabot disappeared before the placenames which he undoubtedly gave were transferred to maps or to the knowledge of local residents.

There is little doubt that the earliest European placenames which survive and continue in use today are Portuguese. These names are concentrated along the eastern coast of Newfoundland, where they appear on charts from the early 1500s as well as on the most recent road maps, good evidence of continuous local occupation since the time when the names were given. The most prominent names include Cape Race (*Cabo Raso*, "Cape Shorn"), the prominent cape at the southeastern tip of Newfoundland, probably named for its treeless tundra vegetation; Cape Spear (*Cabo da Espera*, "Cape Hope") just south of St. John's harbour; Conception Bay (*Baia de Cocepicion*) with Baccalieu Island (*Ylha dos Bacalhaos*, "Codfish Island") in its mouth; Cape Bonavista (*Cabo de Boaventura*) and Fogo Island (*Ylha do Fogo*, Island of Fire). A few names along the south coast of Newfoundland may also derive from early Portuguese originals, such as the deep bay now marked on maps as Bay d'Espoir; the local pronounciation from which this spelling was derived is "Bay Despair," and was more likely derived from the early Portuguese *Baia de Espera*.

In northern Newfoundland and the Strait of Belle Isle region, the place-names reflect early French rather than Portuguese use. Such names include Quirpon (*Karpont*); Chateau Bay (*Hable des Chasteaulx*); and Blanc Sablon, names which were already in use when Cartier entered the Strait in 1534. Several of Cartier's Gulf of St. Lawrence place names also continue in present use. Again, the survival of these names indicates continued use of the Strait of Belle Isle and of some portions of the Gulf of St. Lawrence for the past five centuries. Aside from Cape Breton (from the Portuguese *Cabo de Bretones* "Cape of the Bretons," or less likely "Cape of the English"), neither the Atlantic coast of Nova Scotia nor the coasts of New England shows placenames dating to the earliest period of exploration. For example, none of the place-names given by Verrazzano during his extensive explorations from the Carolinas to Nova Scotia, have survived.

The study of place-names seems to indicate that only one

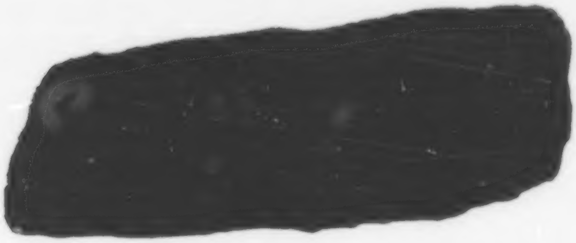
After considerable trouble with ice, they eventually sailed to the west into a long, narrow body of water which they named "Frobisher's Streytes," and which they believed separated Asia to the north from America to the south. The idea that such a narrow channel could penetrate to the South Sea was based on an analogy with Magellan's Strait at the southern tip of South America. That narrow and tortuous channel winds between high snow-covered mountains for 200 kilometres before granting access to the Pacific. Frobisher probably hoped that the American continent tapered to the north as well as to the south, and presented a similar channel to the northern Pacific ocean. Being an experienced mariner, however, he must eventually have begun to find that the tides and currents were not those of an open strait, but resembled those of an enclosed bay. He was sailing the length of what is today known as Frobisher Bay.

Having proceeded "60 leagues" to the west in his newly-discovered "strait" (actually a distance which cannot have been much more than 150 kilometres), Frobisher came upon the first inhabitants of the country. From the top of a hill, he "perceived a number of small things fleeting in the Sea a farre off, whyche hee supposed to be Porposes, or Ceales, or some kind of strange fishe; but comming nearer he discouvered them to be men, in small boates made of leather." Over the next few days Frobisher developed a familiar relationship with the Inuit who came aboard the *Gabriel* with meat and fish, traded sealskin coats and bearskins for bells and mirrors, and competed with the sailors at acrobatic games in the ship's rigging. Their apparently easy acceptance of the newcomers, as well as their possession of iron, has been argued as evidence that the Inuit had had previous dealings with Europeans.

These friendly exchanges were brought to an end by a curious incident: five of Frobisher's men used the ship's boat to carry a visiting Inuk back to shore, and neither men nor boat returned. Frobisher assumed that the men had been captured by the Inuit, but lacking a boat to go ashore, he could do little about it. They sailed close inshore, fired a cannon and blew trumpets, and waited to no effect. The Inuit were now wary of the ship, but one was finally enticed close enough that Frobisher could grasp him and lift man and kayak aboard, holding him hostage. This produced no results in

area of eastern North America has seen continuous use by Europeans since the time of early sixteenth century exploration: the Atlantic coast from Cape Breton eastward around southern and eastern Newfoundland and northward to southern Labrador. The Portuguese names along most of these coasts, together with the French names in the Strait of Belle Isle and the Gulf of St. Lawrence, form a history of the region engraved in geographical knowledge, maintained by continuity of European occupation and folkloric tradition.

Such a continuity of tradition is shown in only one other region of eastern North America. On eastern Baffin Island, several modern place-names (Loks Land, Countess of Warwick Sound, Frobisher Bay etc.) are those given by Martin Frobisher in the 1570s. The land discovered by Frobisher was lost to history for 300 years, and the "Frobisher names" have been re-applied only during the past century, so they cannot count as evidence of continuous use. Yet in the midst of these English names, modern maps show the tiny "Kodlunarn Island" as the site of Frobisher's most extensive mining activity. The name, meaning "White Men's Island" in the Inuit language, indicates the continuity of Inuit occupation of the area, and the accuracy of Inuit historical traditions, over the past four centuries.



This sparkling black stone is the principal ore sought by the Frobisher expeditions. It is a piece of gneiss from Kodlunarn Island, and contains no traces of gold or any other valuable mineral.

the way of an exchange of prisoners, and Frobisher eventually gave up on his five men. With only 13 men left, barely enough to handle the ship, and finding 30 centimetres of snow on deck one morning, the captain headed home for England. No evidence of the five lost men was to come to light during his subsequent expeditions to the area. Three centuries later, however, the Inuit of Frobisher Bay told another story. The five had been marooned by Frobisher; they had built a boat and sailed away the following summer, but had been lost in the ice.

Frobisher returned to England without having proven the existence of a Northwest Passage, but apparently optimistic that he had sailed partway through such a passage. He brought home the captured Inuk and his kayak, "which was a sufficiente witnesse of the Captaines farre and tedious travell towardes the unknowne partes of the worlde." He also brought back certain objects "in token of Christian possession," which had been gathered from an island where his men had landed while waiting for ice to clear from the straits. Among these objects was a black stone which looked like coal, but which was so heavy that it might contain metal. This piece of rock became the centre of a strange story: it was given as a souvenir to the wife of one of the venture's backers; she, for an unexplained reason, threw it into the fire, and then retrieved it and quenched it in vinegar, at which it "glistered with a bright Marquesset of gold."

The rock was taken to an assayer, who confirmed that it was indeed a very high-grade gold ore. Tales of comparable complexity and credibility traditionally circulate around the discovery of deposits of precious metals; one is reminded of the hammer thrown at a fox, which revealed the rich silver deposits at Cobalt in northern Ontario. Nevertheless, to a company which had operated a money-losing venture such as Frobisher's, the story was a great and unexpected asset. On its basis they received a royal commmission to make a voyage in order to bring home gold ore, as well as sufficient investment to clear their debts and mount a new expedition.

The Second Voyage

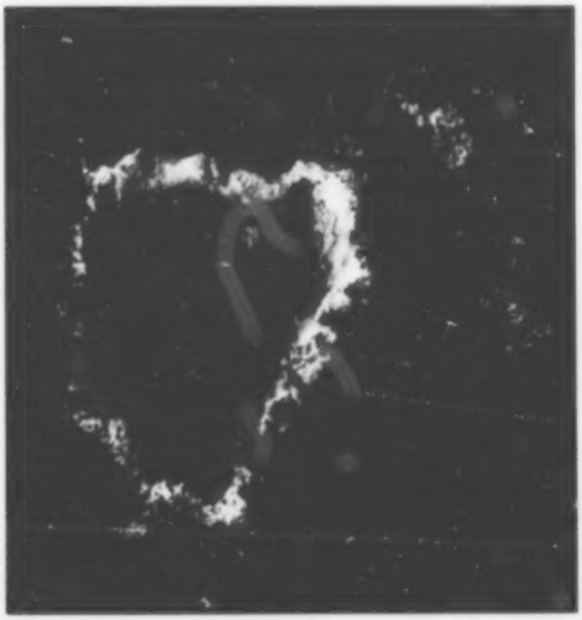
In the spring of 1577, Frobisher's backers formed the Company of Cathay, in order to exploit his discoveries of the year before. Queen Elizabeth herself invested 1,000 pounds, a greater sum than the total which had been collected for the first voyage. The two small ships used the previous year were now joined by a relatively huge naval ship, the *Ayde*, with a complement of 120 sailors, soldiers, gentlemen, goldfiners and miners. Frobisher's primary instructions were to mine a cargo of gold ore; only if he could do so without interfering with the mining operation was he to conduct further explorations of his "strait."

The trip across the North Atlantic was less stormy than that of the previous year. Once again they coasted the shores of Greenland without being able to land because of ice, then crossed to Baffin Island, which had now been named by the Queen *Meta Incognita*, the Unknown Land. Here, on the highest hill of an island now named Loks Land after Frobisher's principal backer, the party erected a large boulder cairn (which still stands) and took possession of the country in the name of Queen Elizabeth. On their way back to the ships they encountered their first Inuit of the voyage. After some friendly trading, the English tried to capture two Inuit as further hostages. This incident ended with one Inuk captured, an Inuit arrow in Frobisher's buttock, and a bad beginning to his attempts to recover the Englishmen lost the previous year. Several days later a more desperate skirmish occurred, in which five or six Inuit were killed, one Englishman gravely wounded, and a woman and a baby kidnapped.

There were other encounters with the Inuit, including one at the mine site on what Frobisher named "Countess of Warwick Island." At this meeting, the captive man was allowed to talk to his compatriots, and explain that the Inuit hostages were being held in order to be exchanged for the five lost Englishmen. A letter, pen, ink and paper were sent with the visiting Inuit, but with no result. Having given up on finding his men, Frobisher now seems to have lost heart for further exploration. As stated in the account of his Lieutenant, George Best, "considering also the shorte time he had in hande, he thought it best to bend his whole endevour for the getting of Myne, and to leave the passage, further to be discovered heereafter. For his commission directed hym in this voyage, only for the searching of the gold Ore, and to deferre the further discoverie of the passage untill another tyme."

A fortification was quickly thrown up to protect the selected mine-site from surprise attack, and the company set about the business of quarrying and loading ore. By August 21, the ships had been loaded with 200 tonnes of rock, the sea was beginning to freeze, and Frobisher decided to set out for home. Within a month the ore was being unloaded in Bristol and at Dartford on the Thames, where smelters had been built for the refining process. Two different German assayers had been hired, and each pronounced that the ore was so rich that the voyage had made a considerable profit. Plans were immediately laid for a third and much larger venture to take place the following year. The three Inuit captives, like their predecessor of the year before, died within a month of reaching England.

Kodlunarn Island lies at the mouth of Frobisher Bay in southeastern Baffin Island. The two large trenches excavated by Frobisher's miners show clearly in this aerial photograph. In the Inuttitut language, Kodlunarn means "White Men's Island."



From our distant vantage point, there is a fascinating and ominous similarity between the patterns of Frobisher's exploration and those of Cartier forty years earlier: the growing numbers of kidnapped natives, the gradual realization that a passage to the Orient had not been found, and finally, the discovery of precious metal in great abundance. The final element of the pattern — the revelation that their ore was worthless — would not become clear for another year.

The Third Voyage

The search for the Northwest Passage was now almost forgotten in the lure of easy gold. The 1578 venture, comprising 15 ships and 400 men, was the largest Arctic expedition ever mounted, before or since. Yet this was not a genuine voyage of exploration but an industrial venture that happened to take place in an Arctic landscape. It was also an effort at colonization. Perhaps harking back to Sir Humphrey Gilbert's tract on the resettlement of the English poor in newly discovered lands, the ships carried materials to build a small settlement, and eighteen months' supplies for the 100 men who would be left in *Meta Incognita*.

The fleet set sail on May 31, following the same route as that of the preceding summers. This time, however, they managed to land on the southern coast of Greenland, taking possession of it under the name "West England." Here they examined some abandoned Inuit tents, finding a box of small nails, an "iron tryvet" and "dyvers other things artificially wroughte, whereby it appeareth that they have trade with some civill people, or else are in deede themselves artificiall workemen."By July 2 they had crossed Baffin Bay to the mouth of Frobisher Bay, which they found choked with ice. A storm at the edge of the ice-fields caused great distress to the fleet, and sank the ship carrying most of the building materials for the proposed settlement. Regathering after the storm, Frobisher mistakenly led the fleet into what is now Hudson Strait, proceeding for some distance before he realized his error and returned. The ships eventually gathered in late July at the Countess of Warwick Island, and the business of mining ore was begun. By late August, over 1,300 tonnes of rock had been loaded into the vessels of the fleet, from mines on the island and along neighboring coasts.

During a conference of the captains, which brought to light the fact that there were neither materials nor supplies sufficient to establish a settlement, it was decided to abandon this portion of the plans. Nevertheless, a single house was built, to see if it would withstand winter snows, frost, and vandalism by the native inhabitants. For the benefit of these people, and to encourage their future friendship, the house was furnished with "dyvers of oure countrie toyes, as belles, and knives, wherein they specially delight.... Also pictures of men and women in lead, men a horsebacke, lookinglasses, whistles and pipes. Also in the house was made an oven, and breade lefte baked therin, for them to see and taste." Barrels of provisions were buried for use by an expedition planned for the following year. In an excess of optimism, the men planted peas and grain "to prove the fruitfulnesse of the soyle against the next yeare." After sermons and ceremonies, the fleet departed fully laden for England, where they all arrived safely in early October.

No one returned the following year to harvest the grain and peas, or to dig up the provisions and investigate the state of the house. There were no further voyages to *Meta Incognita*, since it soon transpired that the "gold ore" was nothing but valueless rock. Frobisher was disgraced, and the location of his new land was lost to memory for almost 300 years. Its rediscovery was based solely on archaeological evidence.

Frobisher's mines were not found until 1861, when the American explorer Charles Francis Hall was shown their location by the Inuit of eastern Baffin Island. On a small island known as Kodlunarn, at the northern entrance to what is now Frobisher Bay, Hall described finding two great trench excavations, as well as the ruins of a house and workshop. This find was confirmed in 1974 by the late Walter Kenyon, an archaeologist with the Royal Ontario Museum in Toronto.

An Elizabethan Settlement on Baffin Island

In preparing to mark the 400th anniversary of Frobisher's voyages, Kenyon and a small crew spent two weeks on Kodlunarn Island. He investigated the ruins of Frobisher's "house", a structure measuring only 2.5 by 3.5 metres with thick walls of rubble masonry, as well as the remains of a larger building which appeared to be a blacksmith's shop. The remains of campsites, work areas and stone-quarries were scattered around the island and on nearby shores. Kenyon writes, "It still seems strange to me that Hall could find traces of Frobisher's smaller camps still visible after the passage of 300 years, and that I could find them just as easily after another 100 years."

The archaeological sites on Kodlunarn Island are Canada's best-preserved remains dating to the Age of Exploration. They represent a heroic episode from our past, the first attempt to plant an English colony in the New World. Isolated as they are at the far eastern tip of the Arctic Islands and 150 kilometres from the nearest settlement, the sites are vulnerable to casual scavenging or more organized looting. These sites should be preserved, protected to the best of our ability, and passed to future generations. The ethic of conservation must be extended to include unique and fragile archaeological sites that few of us will ever have the opportunity to see, yet which remain important witnesses to our past.

CONCLUSION

In the thousand years between A.D. 600 and 1600, Europe underwent remarkable changes. At the beginning of the period, the decline of the Roman Empire was still felt on a continent in which power was fragmented, linked only by the Church and the Latin tongue. In such a society, the exploration of far-off lands could be supported neither by poverty-stricken kings, nor by merchants whose customers could afford little beyond what was produced in the next town. It is fitting that the farthest-ranging explorations of the time were not inspired by political or commercial purpose, but were accomplished for religious motives: the yearning of Irish monks for deserted islands where they could live in contemplation, far from the temptations of human society.

From Dark Age to Renaissance

By the ninth century, when the Irish had explored and settled oceanic islands at least as far west as Iceland, Europe was beginning to climb out of the "Dark Ages." Kingdoms and empires were growing in size, stability and wealth. Cities and churches of stone were once again being built, but the amount of wealth and trade was still not sufficient to finance oceanic exploration. In the following centuries, exploration of the North Atlantic and the discovery of North America was the by-product of a very different force: the last major outbreak of barbarian peoples across Europe. The eruption of Scandinavian peoples during the ninth and tenth centuries has been explained as the product of climatic change, economic forces in their homelands, the development of maritime skills and technology, or as the simple reactions of poor but hardy marginal peoples to increasingly wealthy and indolent neighbors. Whatever the motive, the forces that overthrew the established kingdoms of Europe also propelled small groups of settlers westward across the North Atlantic, in search of new lands and freedom from royal constraint.

The Norse were the first Europeans to attempt an occupation of what is now Canada, but it was doomed to failure because of the aboriginal peoples' ability to protect their homelands. Nevertheless, the Norse managed to maintain settlements in nearby Greenland for almost five centuries, from which at least occasional voyages continued to be made to the eastern coasts of Canada. Contact was also maintained between Greenland and Europe throughout this period, providing a conduit through which knowledge of Western Atlantic lands could reach the Old World. The extent of such knowledge is suggested by the description, written by an eleventh-century Arab geographer, of a people who are probably Inuit. It may also be shown in the much-discussed "Vinland Map," which displays representations of Greenland and eastern Canada, and which may date from the early fifteenth century.

Consciousness of land in the far northwest may have incited fifteenth-century Portuguese exploration from the Azores, and English exploration to the west of Ireland. The discoveries of these early explorers are only hinted at in maps and accounts of the period, yet these hints suggest that Newfoundland, and perhaps Greenland, may have been known to Portuguese and English mariners a few decades before the voyages of Columbus and Cabot.

New Spain and the New Found Land

The late fifteenth-century voyages of Columbus in the south, and Cabot in the north, were to set the stage for the gradual development of the Spanish and English civilizations of the Americas. These voyages, and the ones that were to follow through the sixteenth century, came from a Europe far different from the one that produced mediaeval Irish monks or expatriate Norsemen. The Crusades had broadened the horizons of Europe, established markets for foreign goods, and probably had been the

All early European attempts to settle North America came to bloody ends, at the hands of other Europeans if not at those of the First Peoples. In 1564 the French built Fort Caroline, named after King Charles IX, near what is now Jacksonville, Florida. The following year the Spanish took the fort and massacred the occupants. This drawing was made by Jacques Lemoyne de Morgues, one of the few survivors.

major force in stimulating a revival of trade and commerce throughout the continent. The cities of Italy won the greatest benefits from increased Mediterranean trade. They led Europe in developing both the skills necessary to undertake maritime trade, and the banking and insurance systems which could efficiently finance such endeavours. It is no coincidence that both Columbus and Cabot were Italian, as was Verrazzano, the first official explorer sent to the New World by the king of France.

By the early sixteenth century, Europe had developed the technology, skill and wealth to mount a concerted effort to develop the commercial potential of the newly discovered lands in the west. For the century following the initial voyages, these efforts were directed to two major nodes of New World exploitation. In the south, the Spanish laid claim to New Spain, where they immediately began to subjugate local populations, and to establish Spanish settlements based on the exploitation of Indian labour in mines and on large agricultural estates. Far to the north, in the vicinity of Labrador, Newfoundland and Nova Scotia, lay the territory known as "Baccalaos" or the "New Found Land." Here the Portuguese, Basques, French and increasingly the English developed a massive exploitation of the animal resources of the area: primarily cod, but also seabirds and sea mammals, including the large whales preyed upon by Basque hunters. The extent of the enterprise is suggested by one 1578 report of 50 English ships, 100 Spanish, 50 Portuguese, and 150 French fishing vessels, as well as 20 or 30 whaling ships working Newfoundland waters.

Gold and Silver, Codfish and Whale Oil

It has long been recognized that sixteenth-century Spain accumulated massive amounts of capital by systematically plundering its New World colonies of precious metals and other valuable commodities. The amount of wealth created by plundering the animal resources of the New Found Land has been less widely recognized. Yet, although the comparison is difficult to make, some historians have calculated that sixteenth-century Europe gained more wealth from Newfoundland cod and whale oil than from the gold and silver of Mexico and Peru.

There are several reasons why Canada's major contribution to European development at this time is generally ignored or taken for granted. Fish and oil are smelly, unattractive commodities compared with silver and gold; they were procured, transported and largely consumed by the non-aristocratic segments of European society; and fishing is not nearly so spectacular as conquering an alien race. While the Conquest of New Spain has become a dramatic and important event in European and American history, the contemporaneous Plunder of the New Found Land has been largely forgotten.

Differences between the two kinds of resource exploitation also resulted in remarkable differences in the kinds of enterprises and institutions which Europeans established in New Spain and the New Found Land. The small conquering armies of Spain were immediately followed, and in many cases preceded, by European diseases which caused massive mortality among the dense Indian populations of Central and South America. The accumulation of wealth required that the remaining population be put to work under Spanish supervision and for Spanish profit. This required, in turn, widespread Spanish settlement and the rapid establishment of an administrative structure throughout the territories of New Spain, supplemented by large-scale missionary efforts by the Church.

In contrast, the animal wealth of the New Found Land could be procured without subjugating the aboriginal inhabitants, and without establishing European settlement. Profits could be made by fishing the Newfoundland banks, salting the cod in barrels, and sailing home without going ashore. Even the "dry" cod fishery, in which the salted fish were dried on the beach, or the Basque whaling effort, could be pursued by establishing nothing more than small, temporary shore stations.

The few attempts made by sixteenth-century Europe to establish colonies in North America all met with frustration and abandonment at best, or at worst with disaster. The problems seem to have been the same as those encountered by the Norse when they attempted to settle Vinland 500 years before: the colonies were simply too small and too isolated to withstand the effective defence of their land that was mounted by the aboriginal occupants of the area. The First Peoples of eastern Canada were generally eager to trade with Europeans, as they had for generations traded with Indian travellers from distant lands. They became concerned, however, when the Europeans came ashore and, without the permission of the title-holders to local lands, began to construct buildings and indicate that they planned to stay in the country.

The Norse Vinland colony ended in skirmishes with the local people, as did the 1520s Portuguese settlement on Cape Breton Island and Cartier's 1541 settlement near Québec. Frobisher's relations with the Baffin Island Inuit had degenerated into fighting and hostage-taking, even before his 1578 attempt to establish the first English colony in the New World. Fortunately for the Englishmen who were to be left on Baffin Island, the plan was not carried through. The first Virginia colony, established seven years later, was abandoned after it became involved in hostilities with the local Indians; a second settlement, founded in 1587, disappeared without a trace. By 1600, long after the Spanish conquests of Mexico and Peru, no European colonies existed north of Florida.

Canada Colonized

This picture was to change remarkably during the first decades of the seventeenth century, roughly 100 years after European fishermen had begun to exploit the fishing grounds of eastern Canada. Two related developments can be seen as the primary reasons for the establishment of successful colonies at this time. One was the growing importance of the fur trade, which had begun before Cartier's time, and become an increasingly profitable sideline for sixteenth-century European fishermen. By the end of the century, Europe's developing taste for hats manufactured from beaver fur had made trading more profitable than fishing, and shore stations were being established to exploit the trade. Like the gold of New Spain, Canadian beaver fur gave Europeans the wealth and incentive to establish permanent communities ashore, and to develop relationships with the native peoples of the country.

The other development which opened the door to successful colonization was the decimation of local Indian populations by the introduction of European diseases. The Jesuit Father Pierre Biard, reporting on the Micmac and other Indians of Acadia during his stay from 1611 to 1613, stated:

> *They are astonished and often complain that, since the French mingle with and carry on trade with them, they are dying fast and the population is thinning out. For they assert that, before this association and intercourse, all their countries were very populous and they tell how one by one the different coasts, according as they have begun to traffic with us, have been more reduced by disease...*

By the time Biard was writing, introduced diseases to which New World peoples lacked any immunity or tolerance had been sweeping the continent for almost a century. The native populations of Florida and the Caribbean islands were already well on their way to extinction, and the populations of Mexico and Peru had probably been reduced by more than half. Epidemic disease spread more slowly through the sparse populations of more northern regions, but eventually was just as devastating.

In 1603, when Champlain explored the St. Lawrence River, he found the area an uninhabited no-man's-land between the Iroquois to the south and Algonkian groups to the north. The numerous peoples among whom Cartier had travelled in the 1530s — the inhabitants of Stadacona, Hochelaga and other villages — had simply disappeared. Meagre evidence suggests that the sixteenth-century St. Lawrence Iroquois were at war with the Iroquoian peoples to the south of Lake Ontario, or the Hurons to the north of the lake. Perhaps these wars were caused by the lucrative trade with Europeans that was developing along the lower St. Lawrence. But aboriginal warfare rarely entailed massive casualties, or the massacre of women and children. The St. Lawrence Iroquois almost certainly fell victim to European diseases as well, a process that may have started as early as the winter of 1535 when Cartier reported an epidemic in the village of Stadacona.

As a result, the St. Lawrence Valley was uninhabited when Champlain established the first permanent settlement at Québec in 1608. In the following decades, the French were able to expand and consolidate their occupation of an area where there were no living aboriginal owners. The Pilgrims who landed at Plymouth Rock in 1620 also encountered a dying local population. One immigrant reported that:

> *...the bones and skulls upon the severall places of their habitations made such a spectacle after my coming into those partes, that, as I travailed in the Forrest nere the Massachusetts, it seemed to me a new found Golgotha.*

The Pilgrims thanked God for having swept the land clean of heathens, so that it could be put to use for the support of Christian people. The first governor of the Massachusetts colony wrote: "For the natives, they are neere all dead of small Poxe, so as the Lord hathe cleared our title to what we possess."

The decimation or disappearance of eastern seaboard populations during the first century of contact with Europeans must have been the major factor in opening North America to European settlement. Successful and long-lasting colonies were established in 1605 at Port Royal in what is now Nova Scotia; in 1607 at Jamestown, Virginia; in 1608 at Québec; 1610 at Cupids and 1621 at Ferryland, both on Newfoundland's Avalon Peninsula; 1615 at Manhattan Island; 1620 at Plymouth, Massachusetts; and at numerous other localities over the next few decades. After five centuries of unsuccessful attempts at settlement, Europeans were suddenly capable of establishing beach-heads of occupation in North America. The European conquest of the New World had truly begun.

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INDEX

Acadia, 170
Acadie, 110
Admiral of the Ocean Sea, 82 (*see* Columbus)
Aegean Sea, 19
Africa (Central), 13
Africa (North), 24, 30, 41, 109, 112
Africa (West), 21, 158
Alaska, 15, 16, 52, 147
Alberta, 15
Alexander the Great, 78, 152
Alfonse, Jean, 134, 135
Alfred the Great, 24
Algonkians, 15, 170
Al-Idrisi, 54
Alvarez, John, 101 (*see also* Fagundes, Joam Alvarez)
Ameralik Fjord, 60
Americans, 147
Andreason, Claus, 59
Angoulême, 109 (*see also* New York)
Anticosti Island, 120, 128
Antilia, 65, 76, 79, 95, 97
Antwerp, 87, 151
Aquila, 137
Arabian Sea, 20
Arabic, 74, 88, 112, 167
Arcadia, 110
Arctic Ocean, 14
Arctic, 14, 16, 30, 33, 49, 52, 53, 54, 56, 57, 142, 146, 147, 158, 160, 162, 164, 166
Ardagh, 23
Armada, 75, 153
Asia (Central), 13
Asia (Eastern), 112
Asia (Southeast), 13
Athabaskans (language), 15 (*see* Dene)
Atlantic Ocean, 8, 9, 11, 17, 18, 20, 21, 22, 23, 24, 26, 27, 29, 30, 31, 32, 42, 43, 44, 46, 50, 54, 57, 58, 59, 62, 66, 68, 70, 71, 72, 73, 74, 75, 76, 78, 79, 81, 82, 83, 84, 88, 90, 94, 95, 96, 97, 101, 104, 105, 108, 110, 111, 128, 147, 150, 158, 160, 161, 164, 167
Atlantic Provinces, 16 (*see* Maritime Provinces)
Atlantis, 72, 78
Aubert, Thomas, 102
Australia, 18
Avalon (Land of), 72
Avalon Peninsula, 170
Avon River, 19
Ayde, 164
Azoreans, 58, 94, 99, 100
Azores, 20, 30, 58, 74, 76, 79, 94, 95, 97, 98, 99, 146, 167
Aztecs 14
164, 165, 166, 167, 168, 169

Baccalaos, 8, 94, 109, 168 (*see also* Newfoundland)
Baccalieu Island, 162
Bacon, Robert, 84
Baffin Bay, 29, 30, 165
Baffin Island, 44, 46, 51, 57, 58, 62, 68, 69, 156, 160, 163, 165, 166, 169
Baghdad, 41
Baia da Espera, 162 (see Bay d'Espoir)
Baia de Cocepicion (see Conception Bay)
Baltimore (Lord), 8 (*see* Calver, Sir George)
Baltic Sea, 43
Bardarson, Ivar, 160
Barents Sea, 30
Barkham, Selma, 143, 144, 149
Basel Council, 64
Basque, 102, 144, 147, 148, 153, 168
Bauld, Cape, 91
Bay Despair, 162 (*see* Bay d'Espoir)
Bay d'Espoir, 162
Beardmore, 38, 40
Beare, James, 156
Beauvais, Vincent de, 64
Beheim, Martin, 65
Belem Tower, 94
Belle Isle (Strait of), 47, 92, 100, 115, 116, 117, 120, 122, 129, 138, 141, 142, 143, 144, 152, 153, 162, 163
Benincasa, Grazioso, 76
Beothuk, 16, 101, 102
Bering Land Bridge, 10
Bering Strait, 16
Bermuda, 76
Best, George, 156, 165
Biard, Pierre, 170
Biscaye (Bay of), 69, 147
Bjorn, 35
Black Sea, 44
Blanc (Cape), 118 (*see* Percé, Cape)
Blanc-Sablon, 117, 120, 122, 128, 162
Blasket Islands, 76
Blessed Isles, 8, 72
Bonavista Bay, 79
Bonavista (Cape), 116, 162
Bordeaux, 91
Brador Bay, 117
Brador Lake, 101
Brasil Island, 62, 76, 79, 82, 83, 88, 90, 94, 95, 97
Brasyle, Island of (*see* Brasil, Island)
Brazil, 98, 99, 113, 116
Brazil Rocks, 79
Bremen, 73
Brendan, 26, 27
Brendan (St.), 23, 26, 27, 32, 33, 34, 78, 152
Brest, 117 (*see* Vieux Fort Bay)
Britain, 19, 20, 29, 32, 108
Brittany, 26, 29, 90, 108, 109, 115
Bretons, 26, 86, 108, 109, 113
Bristol, 81, 82, 83, 84, 88, 90, 92, 94, 99, 100, 160, 165
Bristol Channel, 18
British Columbia, 9, 14
British Isles, 30, 32, 33, 44, 46, 95, 109, 159
British Museum, 65
Britons, 14, 109
Buttus, 144, 149

Cabo da Espera, 162 (see Spear, Cape)
Cabo de Bohaventura, 162 (*see* Bonavista, Cape)
Cabo de Prado, 118 (see Pré, Cap du)
Cabo dos Bretones, 162 (see Cape Breton Island)
Cabo Raso, 162 (*see* Race, Cape)
Cabot Strait, 102, 118, 138
Cabot, John, 7, 8, 60, 62, 69, 70, 74, 75, 76, 78, 79, 81, 82, 83, 84, 86, 87, 88, 89, 90, 91, 92, 94, 96, 98, 99, 100, 101, 108, 109, 110, 121, 142, 151, 161, 162, 167, 168
Cabot, Sebastian, 82, 115, 159
Caboto, Giovanni, 88 (*see* Cabot, John)
Caesar, Julius, 26
Cain's Land, 107, 117, 128
California, University of, 67
Calver, Sir George (*see* Lord Baltimore)
Canada, 123, 124, 125, 126, 128, 139 (*see* Stadacona)
Canadian Museum of Civilization, 105
Canaries Islands, 20, 21, 72, 76, 79, 84, 94
Canso (Strait of), 106
Cantino, Alberto, 69, 99
Cape Breton Island, 7, 90, 91, 101, 102, 106, 109, 115, 121, 133, 162, 163, 169
Cape of the Bretons, 162 (*see* Cape Breton Island)
Cape Verde, 20
Cap Rouge, 121, 137, 138, 139
Cape Verde Islands, 79, 94, 98
Cape York District, 59
Caraquet, 137
Caribbean, 7, 16, 30, 50, 74, 76, 82, 87, 91, 98, 109, 113, 130, 160, 170
Caroline (Fort), 168
Carolina (North), 110
Carolinas, 110, 162
Carpini, Giovanni, 112
Carthage, 19, 20
Carthaginians, 19
Cartier, Jacques, 7, 8, 11, 15, 60, 106, 107, 108, 109, 111, 115, 116, 117, 118, 120, 121, 122, 123, 124, 125, 126, 128, 129, 130, 131, 132, 133, 135, 136, 137, 138, 139, 142, 161, 162, 165, 169, 170
Caspian Mountains, 112
Cathay, 65, 88, 92, 156 (*see* China)
Caverio, Nicolo, 67, 69
Chaleurs Bay, 108, 118
Champlain. Samuel, 8, 10, 11, 105, 170
Charlemagne, 29
Charles VIII of France, 137
Charles IX of France, 168
Charlesbourg Royal, 136, 137, 138, 139
Chasteaux (Hable des), 116, 162 (*see* Chateau Bay)
Chasteaux (Baie des), 143 (*see* Chateau Bay)
Chateau Bay, 117, 143, 162
Chicago Tribune, 62
Chicago, 65, 67
China, 13, 65, 78, 88, 92, 96, 110, 112, 113, 156
China (Northern), 112
Chinese, 105
Cipangu, 65, 76, 112 (*see* Japan)
Cobalt, 164
Cod (Cape), 111
Colomba (St), 29
Colombus, Christopher, 7, 8, 17, 38, 48, 58, 62, 63, 64, 65, 70, 74, 75, 76, 79, 81, 82, 83, 84, 88, 89, 91, 94, 100, 113, 130, 150, 161, 167, 168
Company of Cathay, 164
Conception Bay, 162
Confederation (Canadian), 90
Constantinople, 41, 44
Corea, 72

Corte-Real, Gaspar, 58, 59, 60, 62, 66, 69, 100, 102, 106, 109, 129
Corte-Real, Joao Vaz, 58, 97, 98, 106
Corte-Real, Miguel, 58, 67, 70, 100, 101, 106
Corte-Real, Vasqueanes, 58, 106
Cortes, Hernan, 108, 126, 130
Corvo Island, 20, 79, 94
Cosa, Juan de la, 89
Countess of Warwick Island, 164, 165
Countess of Warwick Sound, 163
Cree (language), 15
Cromer, 84
Crusades, 72, 74, 96, 112, 150, 167
Cuba, 76
Cupids, 170

Damoiselle (Île de la), 134, 135 (*see* Harrington Islands)
Denmark, 43, 84
Danish, 41, 58, 59
Dartford, 165
Dauphine, 110
Davis Strait, 57, 58
Day, John, 82, 90, 91, 92
Dead Sea, 67
Dene, 15
Denys, Jean, 115
Desceliers, Pierre, 133, 153
Devon Island, 53
Dicuil, 29, 32, 33
Dieppe, 102, 125
Dingle Peninsula, 29
Disko Bay, 52, 57
Domagaya, 128, 132
Donnacona, 118, 120, 128, 129, 132, 133, 136
Dublin, 34
Dursey Head, 91, 92

East St. Modeste, 144
Egede, Niels, 59
Egypt, 13, 72
Egyptians, 19
Einarsson, Bjorn, 53
El Dorado, 132
Elizabeth I, 156, 158, 161, 164
Ellesmere Island, 52, 53, 56
Elyot, Hugh, 83
England, 18, 24, 32, 44, 74, 75, 78, 81, 82, 84, 86, 89, 90, 96, 100, 110, 121, 153, 155, 156, 164, 165, 166, 169
English, 58, 59, 76, 79, 82, 83, 84, 86, 89, 94, 99, 108, 109, 110, 147, 160,
English Channel, 18
Engroneland Island, 78
Eirik the Red, 34, 38, 44, 52, 54, 150, 162
Eriksson, Leif, 45, 48, 49, 54, 68
Eriksson, Thorsttein, 46, 49
Eriksson, Thorvald, 46, 48, 49, 50

Eskimo,147
Estotiland Island, 78
Europe (Northern), 44, 54, 73, 109
Europe (Southern), 70

Faereyjar, 32 (*see* Faeroe Islands)
Faeroe Islands, 27, 32, 33, 44, 105
Fagundes, Joam Alvarez, 101, 102, 118, 120
Farewell (Cape), 67, 68, 105
Fear (Cape), 110
Fernandez, Joao, 98, 99, 100, 118
Ferryland, 170
Fixlandia, 95 (*see* Iceland)
Florence, 150, 151
Flores Island, 79, 94
Florida, 46, 109, 110, 113, 115, 118, 168, 169, 170
Fogo Island, 162
Formigas Rocks, 79
France, 7, 11, 30, 108, 110, 113, 115, 117, 120, 121, 122, 123, 124, 126, 128, 132, 133, 134, 135, 136, 137, 138, 139, 163, 168, 169
France-Roy, 138, 139
François I, 108, 110, 116, 134
French, 102, 107, 108, 109, 120, 125, 126, 129, 130, 131, 132, 135, 135, 138, 139, 160, 168, 170,
Frisland Island, 78
Frobisher Bay, 163, 165, 166
Frobisher Strait, 156, 161
Frobisher, Martin, 8, 75, 78, 155, 158, 159, 160, 161, 163, 164, 165, 166, 169
Frobisher's Streytes, 163 (*see* Frobisher Strait)
Fundy Bay, 110, 111
Funk Islands, 116, 128

Gabriel, 75, 161, 163
Gallarus, 29
Gaspé, 13, 111, 118, 121, 124, 128
Gastaldi, 109
Gauls, 14
Genoa, 88
George, 83
Germans, 58, 59, 84
Germany (Northern), 84
Germany, 64, 65, 73
Ghana, 158
Gibraltar (Strait of), 19, 20
Gilbert, Sir Humphrey, 158, 159, 165
Gironde, 91
Glace Bay, 106
Glaumbauer, 148
Glendalough, 29
Gnupsson, Eirik, 68
Gog (Tribe), 112
Gomez, 117, 118, 120
Göteborg, 21
Grace Dieu, 74
Grand Banks, 30, 86, 92, 106
Grand Bay, 75, 122, 143, 148, 152, 153 (*see* Belle Isle, Strait of)
Grande Hermine, 128
Great Lakes, 16, 46, 142
Greece, 14, 110
Greek, 72
Grenier, Robert, 149
Greenland, 8, 29, 30, 34, 35, 41, 43, 44, 46, 47, 48, 49, 50, 51, 52, 54, 56, 57, 58, 59, 60, 61, 62, 64, 66, 67, 68, 69, 70, 72, 78, 88, 93, 95, 97, 98, 99, 100, 104, 105, 110, 115, 142, 147, 158, 159, 160, 161, 162, 164, 165, 167
Greenland Museum, 59
Greenlanders, 8, 49, 50, 53
Greenwich, 161
Griquet, 92
Gronelada, 62 (*see* Greenland)
Guanches, 76
Guatemala, 13
Gulf Stream, 29, 30, 94
Gunnalangson, Gudleif, 35

Hakluyt, Richard, 136
Hall, Charles Francis, 166
Hanno, 19
Harald Haarfager, 44
Harrington Islands, 134
Hatteras (Cape), 110
Hebrides Islands, 27, 29
Helluland, 46, 51, 57, 68, 69, 72
Henricus, 68 (*see* Gnupsson)
Henry the Navigator, 74, 76, 79
Henri II of France, 133
Henry VII of England, 82, 89, 90, 99, 100
Henry VIII of England, 158
Herjolfsness, 53
Herjulfsson, Bjarni, 46, 88
Hern Island, 105
Herodotus, 19
Hesiod, 72
Hibernia, 29 (*see also* Ireland)
Hochelaga, 11, 124, 125, 126, 128, 129, 130, 131, 132, 137, 139, 170 (*see* Tutonaguy)
Hochelagans, 125, 130
Holy City, 112 (*see* Jerusalem)
Holy Land, 112, 150
Homo sapiens, 10, 18
Honfleur, 115
Honguedo, 128 (*see* Gaspé)
Hormuz, 113
Hrafn the Limerick-Farer, 34
Huang-Ho (Valley of), 10
Hudson Strait, 58, 68, 100, 159, 165
Hungary, 112
Huron, 10, 170
Huron (Lake), 16
Hvalsey, 52
Hvitramannaland, 34, 35
Hy-Brasil, 76 (*see* Brasil Island)

Icaria Island, 78
Ice Age, 18
Ilha de Pitiguoem, 101 (*see* Penguin Island)
Illa Verde, 95, 97, 100
Incas, 13, 20, 88, 112
Indians, 7, 9, 13, 14, 15, 16, 46, 47, 49, 50, 60, 100, 101, 102, 106, 110, 117, 118, 120, 121, 122, 124, 126, 129, 130, 131, 132, 133, 135, 136, 137, 138, 139, 142, 153, 160, 169, 170
Indies, 65, 123
Indus (Valley of), 10
Ingjaldur, 60
Ingjali, 60 (*see* Ingjaldur)
Ingjoldsholl,88
Ingonish, 106
Ingstad, Helge, 46, 47
Innocent IV, 96
Insulae Fortunatae, 72, 76, 79
Inuit, 16, 34, 51, 52, 53, 54, 56, 57, 59, 60, 61, 68, 146, 147, 153, 159, 160, 163, 164, 165, 166, 167, 169
Iona, 29, 44
Irish, 23, 26, 27, 29, 33, 34, 42, 46, 72, 73, 76, 78, 104, 150, 167
Irishman Islands, 34
Ireland, 18, 23, 24, 26, 27, 29, 32, 33, 34, 69, 70, 76, 83, 88, 90, 91, 92, 94, 95, 100, 167
Iroquoians, 11, 16, 120, 125, 126, 170
Iroquois, 15, 120, 123, 125, 130, 132, 136, 137, 139, 170
Iscariot, Judas, 26
Islam, 112
Iceland, 8, 16, 20, 21, 23, 27, 29, 30, 32, 33, 34, 35, 39, 41, 43, 44, 46, 47, 48, 49, 50, 53, 56, 58, 60, 70, 72, 73, 83, 84, 88, 90, 95, 97, 104, 105, 108, 152, 162, 167
Icelanders, 69, 84, 88, 90
Islettes (les), 117 (*see* Brador Bay)
Islond, William, 90
Israelites, 78
Italian, 76, 78, 105, 110, 150
Italy, 10, 108, 112, 137, 150, 168

Jacksonville, 168
Jacques Cartier Bay, 117
Jacques Cartier Bridge, 130
Jamestown, 170
Japan, 65, 76, 112
Jasconius, 34
Jerusalem, 112
Jerusalem Farer, 53 (*see* Einarsson, Bjorn)

Kangek, Aaron of, 57
Karakorum, 96
Karlsefni, Snorri, 46, 49
Kalsefni, Thorfinn, 46, 48, 49
Karpont (hable de), 116, 162 (*see* Quirpon)
Kensington Stone, 39
Kenyon, Walter, 166
Kodlunarn Island, 161, 163, 164, 165, 166

Kolnus, Jan, 58 (*see* Scolvus, Johannes)
Kublai Khan, 96
Kuyuk, 96

Labrador, 15, 29, 30, 34, 35, 44, 46, 49, 57, 58, 66, 68, 69, 70, 90, 93, 97, 98, 100, 117, 121, 128, 141, 147, 149, 152, 153, 159, 160, 163, 168 (*see also* Markland)
Labrador Current, 29, 30, 142
Labrador Sea, 30, 160
Lachine Rapids, 137, 139
Lahontan (Baron de), 15
Land of Cortereal, 109
Land of the Bretons, 109, 139 (*see* Cape Breton Island)
Land of the Promise of the Saints, 26, 72, 76
Land of Evil People, 11
Land of the Labrador, 99, 100, 101, 110
Land of the King of Portugal, 70, 101
Land's End (Cape), 19
L'Anse-Amour, 142
L'Anse-aux-Meadows, 44, 46, 47, 48, 49, 50, 69, 92
La Rochelle, 109, 111, 117
Las Casas, Bartolome de, 94, 97
Lebanon, 19
Lemoyne de Morgues, Jacques, 168
Leon, Ponce de, 110
Le Testu, Guillaume, 129
Lewis, Harrison F., 121
Limerick, 35
Limoëlou, 138
Lindisfarne, 44
Lisbon, 94, 100
Lloyd, John, 58 (*see* Scolvus, Johannes)
Loks Land, 163, 164
London, 83, 90, 161
Louisbourg, 106
Lyons, 110, 150

Macdonald Stewart Foundation, 138
Machu Picchu, 16
Magdalen Islands, 118, 124, 132, 133
Madeira, 20, 76, 79, 94, 110
Madoc, 78
Madrid, 114
Magellan, F., 113
Magellan (Strait of), 109, 113, 158, 163
Magog (Tribe), 112
Maine, 39, 49, 91, 110
Malecite, 16
Manhattan Island, 170
Manuel I, 98
Mar del Sur, 158 (*see* Pacific Ocean)
Maritime Provinces, 13, 16, 110
Markland, 46, 49, 50, 57, 68, 69, 72, 88 (*see also* Labrador)
Marseille, 20
Massachusetts, 7, 170
Massalia, 20 (*see* Marseille)
Massard, Léopold, 138
Masson, Ari, 34
Mathew, 75, 90
Mayda Island, 95
Mayflower, 170
McGill University, 124
Mecca, 88
Moors, 100
Medici (Bank), 151
Mediterranean, 27, 72, 74, 76, 88, 168
Melville Bay, 67, 68, 69
Memorial University, 144
Mercator, 78
Mesopotamia, 10
Meta Incognita, 8, 155, 156, 164, 165, 166
Mexico Valley, 14, 50
Mexico City, 131
Mexico, 7, 8, 10, 11, 13, 14, 108, 109, 114, 125, 130, 139, 169, 170
Mexico (Gulf of), 16
Michael, 161
Micmac, 13, 16, 102, 106, 118, 120, 170
Milan Chart, 95, 97, 100
Ming 112
Minnesota, 39, 50
Mira Bay, 106
Mississipi, 50
Mississipi Valley, 46
Missouri Valley, 15
Molinus, 117
Mongol, 62, 96
Mongol Empire, 76
Mont St. Michel Abbey, 116
Montagnais, 16
Montecalunya, Juan Caboto, 88
Montréal Island, 129, 130, 132, 137
Montréal (City of), 125, 130, 138, 139
Morgan, Louis Henry, 130
Morison, Samuel Eliot, 35, 92
Mount Royal, 129, 130, 132
Mowat, Farley, 43
Muscovy Company, 161

Nabaitsoq, 60 (*see* Nipaitsoq)
Narragansett Bay, 109, 110
Nass River, 9
Natashquan, 120
Navaranak, 59
Navarre, Marguerite de, 134
Necho II, 19
Nepean (Point), 105
Netherlands, 73
New Found Island, 8
New Found Land, 81, 82, 86, 99, 100, 168
Newfoundland, 8, 16, 26, 27, 29, 30, 44, 46, 58, 59, 62, 66, 69, 70, 75, 76, 79, 86, 87, 88, 90, 91, 92, 94, 97, 98, 99, 100, 101, 102, 106, 108, 109, 110, 11, 113, 114, 115, 116, 117, 118, 122, 132, 133, 136, 138, 139, 144, 151, 153, 159, 160, 162, 163, 167, 168, 169, 170 (*see also* Vinland)
Newfoundland Banks, 160, 169 (*see* Grand Banks)
Newfoundlanders, 90
New Brunswick, 118, 137
New England, 90, 162
New France, 15, 109
New Jersey, 110
New Spain, 7, 75, 109, 110, 114, 126, 130, 151, 167, 168, 169, 170
New York City, 109
New York (Bay of), 110
New York State, 125, 126
Nile River, 19
Nile Valley, 10
Nina, 75, 84
Nipaitsoq, 59, 60
Noël, Jacques, 139
North Sea, 18, 43
Nordrsetur, 56
Northwest Passage, 155, 156, 158, 159, 160, 164, 165
Norumbega, 111, 113
Norman, 54, 86, 108
Norse, 16, 30, 32, 33, 34, 35, 37, 38, 39, 41, 42, 43, 44, 46, 47,. 48, 49, 50, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 64, 67, 68, 70, 72, 73, 76, 78, 88, 90, 92, 104, 106, 150, 160, 167, 169 (*see also* Viking)
Norway, 20, 30, 33, 38, 43, 44, 62, 64, 104, 105
Norwegian, 41, 54
Nova Scotia, 79, 86, 93, 97, 101, 102, 109, 110, 111, 121, 162, 168, 170

Ochelassa, 129 (*see* Hochelaga)
Ohio River, 50
Ohio Valley, 14
Oklahoma, 39
Olaf Kyrre, 49
Ontario, 16, 17, 38, 125, 164
Ontario (Lake), 170
Orkneys, 26, 27, 29, 44, 78
Orléans (île d'), 128, 129
Osiris, 72
Ottawa City, 105
Ottawa River, 130, 132
Ottawa Valley, 105
Ottoman Empire, 112
Ouaiseaux (île des), 116 (*see* Funk Islands)

Pacific Ocean, 14, 96, 147, 158, 163
Paleoeskimos, 49, 142
Pamlico Sound, 110
Papars, 33
Paraguay, 39
Parks Canada, 47, 149
Paris, 95, 97, 126
Pasqualigo, Pietro, 100, 101
Patrick (St.), 24
Penguin Islands, 102
Percé (Cape), 118
Peru, 7, 8, 10, 14, 16, 139, 169, 170
Persian Gulf, 113
Petite Hermine, 121, 128
Phoenicians, 19, 20, 100
Philip II, 148
Pilgrims, 7, 170
Pillars of Hercules, (*see* Gibraltar, Strait of)
Pining, Diddrik, 58, 84
Pinware River, 144
Pissaro, 126
Plains, 14, 15
Platon, 72
Plymouth, 170
Plymouth Rock, 7, 170
Polo, 76
Polo, Marco, 76, 96, 112, 113
Polo, Matteo, 76, 96, 113
Polo, Niccolo, 76, 96, 113
Poland, 72, 96, 112
Port du Refuge, 109 (*see* Narragansett Bay)
Port Royal, 170
Portugal, 30, 58, 74, 76, 79, 83, 94, 97, 98, 99, 100, 101, 102, 106, 108, 129, 158
Portuguese, 20, 58, 59, 70, 74, 76, 79, 93, 94, 97, 98, 99, 100, 101, 102, 106, 108, 110, 113, 160. 167. 168
Pothorst, 58
Prado (Cabo de), 118 (*see* Percé, Cape)
Pré (Cap du), 118
Prester John (Land of), 72, 112
Prince Edward Island, 118
Public Archives of Canada, 143
Pytheas, 20

Qilakitsoq, 56
Québec City, 8, 16, 120, 121, 125, 128, 169, 170
Québec Province, 49, 106, 117, 125, 128
Queen Elizabeth Foreland, 161 (*see* Resolution Island)
Quinn, David, 82, 83, 88, 91, 92
Quirpon, 116, 136, 162

Race (Cape), 91, 133, 162
Rafn, Carl Christian, 38, 41
Raleigh, Sir Walter, 8, 106
Ramah Bay, 49
Ramusio, 86, 131
Red Bay, 141, 143, 144, 147, 148, 149, 152, 166
Renaissance, 92, 131, 156, 167
Renews, 133
Resolution Island, 161
Restelo, 94
Rhode Island, 38, 39, 50, 110
Rink, Hinrich, 59, 60
Roberval, 121, 129, 133, 134, 135, 136, 138, 139
Roche, Marguerite de la, 134, 135, 139
Rocky Bay, 121
Rocky Mountains, 14

Roman Empire, 24, 167
Romans, 14, 20, 76
Rome, 14, 21
Roskilde Fjord, 43
Rougnouse, 133 (*see* Renews)
Royal Ontario Museum, 38, 40, 166
Rubruck, Wilhelm, 112
Russia, 41, 44
Rut, John, 160

Sable Island, 102
Sabo, Deborah, 56
Saddle Island, 141, 144, 149, 152, 153
Sagnay, 133 (*see* Saguenay, Kingdom of)
Saguenay (Kingdom of), 8, 124, 128, 130, 132, 133, 136, 137, 138, 139
Saguenay River, 128
Saguené (rivière de), 129 (*see* Saguenay River)
Sainct Laurens (baye), 128 (*see* St Lawrence, Gulf and River)
Saint Marie rapids, 137
St. Brendan's Isle, 62, 76, 78, 79
St. Charles River, 121, 128
St. John's day, 90
St. John's (City), 59, 106, 138, 162
St. Lawrence (lower), 170
St. Lawrence River, 118, 120, 128, 129, 130, 131, 132, 133, 139, 170
St. Lawrence (Gulf of), 8, 16, 69, 102, 111, 113, 116, 117, 118, 120, 121, 122, 124, 134, 135, 137, 142, 144, 153, 162, 163
St. Lawrence Valley, 16, 50, 120, 124, 125, 170
St. Lawrence (Upper), 16, 130
St. Malo, 116, 117, 120, 1212, 122, 124, 126, 132, 133, 136, 138
St. Modeste, 143 (*see* East St. Modeste)
St. Pierre (Lake), 129
St. Servan, 121 (*see* Rocky Bay)
Salisbury, 19
San juan, 149, 152
Santa Clara ,84 (*see* Nina)
Santa Maria, 89
Sargasso Sea, 30, 31
Scandinavia, 21, 39, 41, 160
Schledermann, Peter, 53
Schonback, Bengt, 47
Scolp, Jon, 58 (*see* Scolvus, Johannes)
Scolvsen, Jon, 58 (see Scolvus Johannes)
Scolvus, Johannes, 58
Scotia, 32 (*see also* Ireland)
Scotland, 26, 27, 32
Scottish, 78, 147
Semadet, 143 (*see* East St. Modeste)
Senegal, 79
Seven Cities (Island of), 76, 79, 83, 91, 95, 97
Sept-Iles, 129
Severin, Timothy, 26, 27
Shakespeare, 156
Shetland Islands, 26, 27, 29, 32, 44, 72, 105, 161
Siberia, 16, 49
Sicily, 54
Siena, 151
Simancas, 82
Sinclair, Prince Henry, 78
Skraelings, 50, 52, 53, 54, 57, 59
Snaefellsnes, 88
Soolacadie, 106 (*see* Mira Bay)
Southampton, 74
Spain, 14, 75, 78, 82, 83, 88, 97, 98, 112, 113, 118, 143, 148, 152, 153, 158, 169
Spanish, 30, 98, 110, 113, 158, 160, 167, 168
Spear (Cape), 162
Speculum Historiale, 64
Spitsbergen, 30, 147
Stadacona, 121, 128, 129, 130, 132, 133, 136, 170 (*see* Québec City)
Stadaconans, 121, 128, 129, 132, 136
Stefansson, Sigurdur, 46, 69
Stefansson, Vilhjalmur, 160
Stine, Anne, 47
Stonehenge, 18, 19
Strait of the Three Brothers, 58
Straumfjord, 142
Switzerland, 64
Superior (Lake), 40
Sutherland, Patricia, 56
Sweden, 21
Syria, 112

Tagus, 100
Taignoagny, 128, 132
Tamerlane, 112
Tartar Relation, 62, 64
Tartary, 94
Teotihuacan, 14
Terceira, 98, 100
Terra Cortereal, 69, 101
Terra Corte Regalis, 106
Tera del Rey de Portuguall, 69, 99, 101
Terra do Laurador, 101
Terra Laboratoris, 99
Terra Verde, 100, 102
Thames River, 165
Thévet, André, 109, 111, 134, 135
Thiennot, 120, 122
Thor, 33
Thorne, Robert, 83
Thule, 20
Tierra del Fuego, 162
Tieve, Diogo de, 94
Tikal, 13
Tipperary County, 24
Tir Breasail, 76 (*see* Land of the Promise of the Saints)
Toledo, 148
Toltecs, 14
Tordesillas (treaty), 97, 98, 99, 101
Toronto, 40, 166
Toscanelli, Paolo, 76
Trade Winds, 30
Trigger, Bruce, 124
Trinity, 83
Tuck, James, 144, 148, 149, 152, 153
Tudor, 78
Tunis, 79
Turkey, 113
Turks, 112,113
Tutonaguy, 126, 130, 137 (*see* Montréal, City)

Ulster, 24
Ultima Thule, 20
Ungava, 49
Ungortok, 59, 60
United States, 7, 14, 16, 50, 62, 69, 105, 110, 125
Unknown Land, 164 (*see* Meta Incognita)
Upernavik, 67
Upper Rhineland, 64

Valencia, 88
Vatican, 98
Velasco, Pedro de, 94
Velho, Gonçalo, 79
Venice, 74, 76, 78, 88, 101
Verrazano, Giovanni da, 107, 108, 111, 113, 116, 118, 150, 162, 168
Verrazano Narrows, 110
Vestmannaeyar, 34 (*see also* Irishman Islands)
Vestmenn, 33 (*see also* Irish)
Vianna, 101, 102
Vieux-Fort Bay, 117
Viking, 20, 23, 29, 37, 38, 39, 41, 44, 50, 73, 150 (*see also* Norse)
Vinland, 8, 34, 37, 46, 47, 48, 54, 62, 63, 64, 65, 66, 67, 68, 69, 70, 72, 88, 92, 106, 142, 167, 169
Vinland Island, 64, 68, 69
Virgil, Polydore, 90
Vistula River, 96

Wales, 18, 19, 26, 78
Wallace, Birgitta, 47
Welsh, 78
Weser, 73
Westerlies, 30
West England, 165 (*see* Groenland)
West Indies, 79, 89 (*see also* Antilles)
White Fleet, 106
White Men's Island, 163 (*see* Kodlunarn Island)
Wicklow County, 29
World War I, 147
Worcestre, William, 76, 84

Xateau, 143 *see Chateau Bay*
Xoracadie, 106 (*see* Mira Bay)
Yahgan, 162
Yale University, 62, 64, 65, 66
Ylha do Fogo, 162 (*see* Fogo Island)
Ylha dos Bacalhaos, 162 (*see* Baccalieu Island)
Yslond, William, 90

Zeno, Antonio, 78
Zeno, Nicolo, 78
Zichmni (Prince), 78

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